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Cerebro-Spinal Meningitis.

SYNONYMS.—CEREBRO-SPINAL FEVER, BRAIN FEVER, NERVOUS FEVER, NERVOUS PROSTRATION, NECK FEVER.

By Alban S. Payne, M.D., Markham, Va.*

GENERAL REMARKS.

IN REGARD to the frequency of the occurrence and to the diversified symptomatology of spinal meningitis my opinions have undergone considerable change since called upon to treat, in the last eighteen months, this disease in its widespread epidemic form in Piedmont, Virginia.

I recognize the fact that I have in years past seen other diseases complicated with symptoms of spinal and of brain irritation or fever, and failed to realize the fact; especially has this been the case in typhoid fever during the years gone by, when that disease swept over our beautiful and mountainous region country like a simoon, leaving death and destruction, and agony and grief in its rear. It is true in these cases I recognized congestion of some internal organ, and when the tongue was white, instead of red and and dry, and the delirium was fierce I thought it was due to central congestion or to subacute inflammation of the kidneys. I remember once or twice to have bled these patients, and with benefit, when my professional brethren would leave the room, not wishing to see the patient sink under the reaction, only in a short time to be called back to find the patient better, pulse fuller and slower, breathing less hurried, temperature lower and mind clearer. Now I know that I also should have used ice and then

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counter-irritation to the nape of the neck, in these cases of typhoid fever complicated with spinal and brain irritation.

In regard to spinal meningitis, I have come to the following conclusions: That it is epidemic and governed by the same laws governing other epidemic diseases, and that it is peculiarly liable to become chronic in form. And when in a mild form it is often present when least suspected by the patient, his friends, or by his medical adviser. And I think under this supposition, we can explain with reason many otherwise inexplicable occurrences in all the relations of life. For instance, a man prosperous in business, a sensible, kind, good man, good in all the relations of life, suddenly changes, becomes bad, dissolute in his habits, possibly commits some horrible crime at which nature itself seems to revolt. The whole community is surprised, amazed at this heretofore good man being guilty of such a heinous crime; they, however, say, "poor fellow; he has drunk too much bad whiskey, and will have to pay the penalty." But the fact is this man is to be pitied. He has had spinal meningitis; it is becoming chronic, and he is the poor, helpless servant of a disordered brain. Pathological alterations are going on at the base of his brain and along portions of his spinal cord, sufficient to throw the nerve centers into irregular and tumultuous action. Hence his strange line of conduct, differing so radically from what it was when the nerves were performing their normal functions. I have seen cases where kleptomania was the initial symptom. Again, I have seen the irresistible desire to commit arson, the first and most prominent symptom in meningitis.

To a subject suffering from chronic spinal meningitis, where pathological changes are going on in the meningeal coverings of the brain and along portions of the spinal cord, add frequent potations of whiskey, and you but add fuel to a flame, and the poor fellow is the irresponsible agent, drawn on in his mad career of dissipation and crime by the workings of an unhealthy brain.

Again, I have seen cases of spinal meningitis in young females from eleven to fifteen years of age, and before their first menstrual flow, so richly clothed in the habiliments of hysteria, that it was hard to recognize them. And here I do not think I can do better than to quote what that distinguished gynæcologist, Dr. Goodell, says in regard to hysteria in young females: "When called to treat a young girl with an hysterical attack, there are three things you had better do. 1st. Institute at once firm pressure in the neighborhood of both ovaries; this is very apt to quiet the patient at once. 2d. Administer an emetic. I have found that a woman who is under the influence of an emetic has not the opportunity to do any thing else than be thoroughly nauseated. Give a full dose of ipecac with one gr. tartar emetic. 3d. And this method of controlling the spasm will often act charmingly. Take a good sized lump of ice and pass it right down on the nape of the neck; this produces quiet by its powerful impression on the whole nervous system."

I will simply add to what the distinguished professor has said: and rub down the spine to second dorsal vertebra, well with the croton tiglium, until you have its characteristic eruption, and you do more to relieve hysteria and to prevent cerebro-spinal meningitis than by all other plans of treatment, for I think hysteria in young females is caused primarily by some slight irritation of spinal cord, and by reflex action is carried to the ovaries and to the sexual organs.

ITS CAUSATION—ITS ETIOLOGY.

I think it is, in its epidemic form, principally due to sudden vicissitudes of temperature from hot to cold and *vice versa*; to great and sudden climatic alternations; to a want of balance in the electrical conditions of the atmosphere, so to speak, a "*distemperature*."

The causes may be divided, with propriety, into predisposing and exciting. The predisposing cause is furnished by a want of balance in the electrical conditions of the atmosphere. By far the most frequent exciting cause of spinal meningitis is "mind worry;" at the same time anything that tends to overtask the mental or physical forces is an exciting cause. Blows on the head, noises, confusion, etc., etc., may become predisposing and exciting causes. The symptoms of spinal meningitis are numerous and greatly diversified, running all the way from simple stiffness of the sterno-cleido-mastoid muscles to violent tetanic spasms and complete delirium. It may photograph itself and so closely resemble hysteria that the friends of the patient, and even the medical adviser himself, may think it all put on for effect. As I have before said, one of the most fruitful sources of spinal meningitis is "mind worry," and when in addition to this you have a rheumatic, a neuralgic, a gouty, a scrofulous, a purpuric or a syphilitic cachexia, you have both frequent predisposing, and exciting causes of cerebro-spinal meningitis. Patients laboring under the secondary and tertiary forms of syphilis, are peculiarly liable to the epidemic influence of spinal meningitis. In fact, neuralgia, rheumatism or any other cause sufficient to disturb the excito-motory system may be classed as an exciting as well as a predisposing cause of cerebro spinal meningitis. Indeed, the exciting causes and the predisposing causes may so nicely and imperceptibly commingle together, that it is extremely difficult to draw the line of demarcation between them; and what is clearly an exciting in one case, may prove to be a predisposing cause in another case of this disease. In the May number, of 1884, of the THERAPEUTIC GAZETTE, in a paper on cholera infantum (so called), I have said, and attempted to prove, that "cholera infantum" is generally a spinal irritation, a disturbance of the nerve centre, and is transferred to the chylopoietic viscera by reflex action. I am prepared to-day to say that I also believe that "puerperal mania" is spinal irritation carried from the spinal cord and base of the brain to the uterus and its appendages, by reflex action. It is nothing more nor less than cerebro-spinal meningitis during the puerperal state, or in a lying-in woman. In the last eighteen months one can scarcely pick up a newspaper whose columns are not full of wholesale murders, horrid, unnatural murders. I often wonder if these murders are not the out-growth of spinal meningitis. During the months of November and December, 1882, with us, in north-eastern Virginia, it was extremely cold; the following months of January, February and March, 1883, were unusually warm, damp and close, a south-east wind blowing mostly during these months, with sudden and great alternations of climate and temperature. The diseases pre-

vailing during these winter and spring months were such as, to the casual observer, usually prevail in July and August, *i. e.*, cholera morbus, cholera infantum, diarrhœa, etc. These choleroids soon assumed a widespread epidemic form.

About this time the disease proved so fatal in a village in the State of Connecticut under the common name of "winter cholera," that the inhabitants of this village abandoned their homes under the fallacious belief that the water in their village was poisonous from imperfect sewerage. If a coincidence at all, it was a remarkable one, that at the same time I should be meeting with patients on the eastern slopes of the Blue Ridge mountains, in Virginia, seriously affected (purging, vomiting, with cramps), and that they should imagine themselves poisoned by arsenic intended for the rats. My explanation is that "winter cholera" was a misnomer, and that the disease in Connecticut and Virginia was the same as "cerebro-spinal meningitis," and the choleroid symptoms were reflex action caused by spinal irritation. As this disease spread and was seen by experienced observers, you could see in the newspapers, from all sections of our country, death notices from cerebro-spinal meningitis, from spinal fever, from brain fever, from nervous fever, nervous prostration, etc., etc. In some locations where none escaped, and it was mild in form, it was popularly known as the "neck fever." To the experienced and careful observer, all these diseases, winter cholera, neck fever, brain fever, cerebro-spinal meningitis, cholera morbus, etc., were one and the same disease, or, "spinal meningitis," and often deriving its name from some prominent symptom. Pathologically speaking, it is a fever, an irritation of the spinal cord, extending from the first dorsal vertebra to the base of the brain. The irritative fever, starting in the spinal cervix and base of the brain, you may have an effusion of water on the brain, or by reflex action any organ in the system might be invaded. Whenever the cerebrum becomes involved, it assumes more the characteristics of an inflammation; the symptoms become more pronounced, the delirium fiercer, and the patient more unmanageable. In a majority of cases occurring in the winter and spring months, the irritative fever was caused by reflex action to the stomach and bowels. Hyperæmia of these organs was the result, and per consequence you would have great thirst, persistent vomiting and purging, with rice, milk-colored stools. In females with this irritative fever, let reflex action fall upon the uterus and its appendages, and you find amenorrhœa a concomitant symptom, but more often you have a menorrhagia to contend with. Occasionally you would come across a case in which instead of purging and vomiting, you would have some constipation and hardened fæces to contend with, accompanied with symptoms closely resembling those of intussusception, minus the fæcal vomiting. In these cases the bowels were unusually hard to move, and required strong doses of antibilious remedies, assisted by oft-repeated relaxing or stimulating enemata, to bring away the balls of hardened, impacted fæces. In these cases the first discharges from the liver were black, sticky, tarry. Often the spinal irritation was overlooked, or, I should rather say, covered up, by the severer symptoms of reflex action in various organs, but just so soon as these symptoms abated, the cerebro-spinal symptoms would show themselves in unmistakable signs, to the careful investigator of disease. In young females, from twelve to fourteen years of age, who are particularly prone to meningitis, the symptoms often bear a striking resemblance to that of hysteria, and their first monthly flow often comes on during the treatment of the meningitis and is regarded by me as a most favorable symptom of recovery. Then again you may have a singular admixture of the real with the imaginary, in these cases. I have, more than once, seen cases of the most grave character when the parents and friends of the patient thought there was little or nothing the matter (only a little hysterical), and this too when the tongue was heavily coated with a white fur, as white as a piece of white cotton cloth, pulse, 120, temperature, 103° to 106°, and the hearing wonderfully acute, etc., etc. I think when spinal meningitis becomes chronic it may degenerate into softening of the brain, nerve prostration, imbecility or hypochondriasis. In concussion of the brain you have persistent vomiting; contracted pupil. I ask is this not reflex action? I will record a single case in point:

In the winter of 1844 I was exercising on the flying trapeze in Charley Otingnon's gymnasium, in Canal street, New York City. Whilst I was 30 feet in the air the rope broke, and I fell to the floor, striking plumb on my occiput. Dr. Henry Beck Woodhull, of New Jersey, and Dr. Benjamin Vreland, of New York city, were with me at the time and they said when I fell I lay a moment or so, then sprang up, commenced dancing, and singing, and laughing, and running around telling every person in the room my name was John S—. John S. was a warm friend of mine in Virginia, who three or four years before had received a serious fall from his horse, and suffered for some time from a severe concussion of the brain. Drs. Woodhull and Vreeland thought me unhurt, and only getting off a piece of fun on them. They continued their exercise, and soon missing me they instituted a search for me. When they found me I was in my shirt and drawers in the entrance to the gymnasium making a humorous speech to a crowd, who, hearing of the accident, had come to the gymnasium to learn the particulars. When they dressed they found that I did not know how to put my clothes on, and they had to take me home to 531 Broadway, corner of Spring street. This house is now known as the Prescott house, and at that day Prof. Lewis A. Sayre kept his office in the basement of this house. On reaching Dr. Sayre's office I commenced to vomit. After vomiting I was anxious to go home, shed tears to go home, insisting that my name was John S. Perfect delirium quickly supervened. I was under the charge of Drs. Lewis A. Sayre, Allan Goldsmith, H. B. Woodhull and Benjamin Vreeland, at least one of them being with me day and night. In eight days I came to my right mind, found I had been bled several times, blistered as often, and purged to my heart's content. Indeed, I soon became aware that I had been "put through a double course of sprouts." I speedily recovered, as I supposed. But six months after the fall I had occasion to go to No. 9 Park Place. At the Park I unexpectly encountered several military companies on parade with drums beating and banners flying. I found at once I was losing my mind. I immediately returned to Dr. Sayre's office, and here I again began to sing the same old tune, by telling everyone my name was John S——, and I

wanted to go home. Perfect quiet and gentle laxatives restored me in a few days, nor have I ever felt anything of it since, and it it is just 40 years ago since I received the fall. Now no one will dispute this being a severe case of congestion of the brain, and I only mention it to show when the posterior portion of the brain and the spinal cord is disturbed, from whatever cause, the symptoms are peculiar, contradictory, and liable to be suspected of being either hysterical or feigned.

Land scurvy (purpura hemorrhagica) is a much more common disease in our couniry than is generally supposed, and is caused by living too exclusively on salted meats. Again, I have seen whole families of children "salt-eaters" emptying the salt cellars daily. Scurvy is a predisposing cause of spinal irritation. The same may be said of anæmia. I think it is brought about in this way: Sudden and great climatic alterations of temperature produce a distemperature and this distemperature tends to impoverish, to deteriorate the circulating fluid, and any cause that deteriorates the blood is a "de facto" cause of spinal irritation.

As the fail of the year approached this epidemic would be found wearing some of the habiliments of fever of malarial fever, a remittent bilious fever, and it was hard to say sometimes whether it was the fever of malaria with head symptoms, or spinal meningitis complicated with malarial fever. I incline to the latter opinion, and am induced to do so from one symptom never absent in this epidemic, viz., the "white tongue," the *very* white tongue. It is undeniable that there were many symptoms in common. In either you might have the epistaxis and the hemorrhagic pulse, and as convalesence approached you might or might not have the powerful sweats, but you never had the *white tongue* except the symptoms of the brain and spinal trouble proved to be the most serious. Then, again, where the result proved fatal, it occurred in from 12 hours to 3 or 4 days. In the fevers of a remittent bilious type, death does not occur before the third week, and in typho-malarial and typhoid fever fever, not often before the fourth week. And here you will, I hope, pardon me for calling your attention to a case of puerperal mania (so called), that occurred in my practice, in the year 1854. This year I attended Mrs. G. D. P., age 27, a strong, hearty, healthy young woman in her first confinement. Her labor was natural, neither too slow nor too quick, and in nine days after her confinement I happened to be at her house and found her sitting up cheerful, and feeling, she said, as well as she ever did. The night of her 23d day of confinement I was, at 12 o'clock, hastily called to see her. I reached her house about 1 o'clock at night, found her at the piano playing and singing elegantly and sweetly. As I entered the room she sprang from the piano and greeted me most cordially, almost I had said affectionately. I learned that on the Sunday preceding she had gone to church and had passsed her own house, without stopping to see or nurse her baby, and had gone to dine with her neighbor, living two miles above her own house, and had not returned home until night. Her nights had been sleepless, and her course, fault-finding and erratic ever since the preceding Sunday. She was disposed to find fault with everything her mother or husband did or said. Gave her baby no notice whatever, and it had to be fed. Talked incessantly about everything but her sickness, said she was in fine health. There was a slight show of blood from the vagina, her face was flushed, the eye unusually bright, pupils contracted. Her pulse 130 and corded, her skin apparently cool, with a clammy moisture, tongue heavily coated with a very *white fur*, bowels loose. About this time her husband and mother coming into the room, she evinced considerable aversion to them, and charged them of robbing her of a two thousand dollar bond. Her mother, regarding her as insane, was anxious that I should call in two magistrates and commit her to the lunatic asylum, at Staunton. I told her no; her daughter's was a case of "puerperal mania," and if sent to Staunton she she would die on the way. I at once had Dr. G. M. B—— sent for. Dr. B. had been the family physician for a number of years, besides being a physician of great eminence and experience. Whilst I was waiting for the doctor, with great difficulty I prevailed upon her to take camphor, cal. and opium pills; she opened her mouth, threw in the pills apparently, swallowed a mouthful of water to wash them down, and I really congratulated myself upon having succeeded in getting her to take one dose of medicine. In a short time, happening to move the lamp in the room, I found the two pills on the carpet; with a kind of "sleight of hand" she had thrown the pills over head, instead of swallowing them, as I had supposed.

The doctor came Thursday morning. By some unlucky accident she happened to mention the lost bond. As soon as the doctor heard this he abruptly called me out of the room, said he knew this family, their ancestors, etc., better than I did; that it was only a d—n kink; suggested that we write a bond for two thousand dollars, payable to her, and make her husband and mother sign it; give it to her and, his word for it, she would go to sleep as quietly as an infant. I attempted to remonstrate with him that it would prove a fatal case of "puerperal mania." Told him how she had by sleight of hand deceived me with the pills. But nothing I could say to him would convince him it was not a "d—n kink," and he left, with the promise to hurry back if I sent for him. I prepared the bond as directed; she seemed to take some interest during its preparation, but it had no more effect upon her than a drink of water; not as much as a lump of ice to the nape of her neck would have had. I sent for Dr. B. again; he did not get there until Friday. As soon as he entered the room, without any examination of the patient whatever, he said it was a case of typhoid fever. I was mortified and chagrined to see such a fine physician and sensible man act so inconsiderately, and said to him, "Doctor, I cannot agree with you. I do not deny that the patient is passing into a typhoid condition, but it is a case of 'puerperal mania,' and I will send for old Dr. S— to decide between us." Well, the old doctor came on Saturday. He was perfectly noncommittal, but invited Dr. B— and myself to argue the case before him. Dr. B—. led off to prove it was a case of typhoid fever. In reply I took the broad ground that stolid indifference and stupor was the very essence of typhoid fever, that no typhoid fever patient had ever been known to practice sleight of hand, that their actions were sluggish, dull, clumsy; that in typhoid fever the hearing was dull, obtuse; here it was preternaturally acute. That in typhoid fever the tongue was, at the commencement,

red at the tips, and as the disease advanced it became red and dry; here it was unusually white. In typhoid fever the pulse was rapid and compressible; here it was rapid but corded and thready. In typhoid fever the eye was dull; here it was unusually bright, staring with concentrated pupil. After several hours spent in discussion before the old doctor, he said that we had presented our respective opinions with marked ability; that he had been deeply interested as well as instructed by our very able discussion, but that it was impossible for him to forget that Dr. B—. was the oldest practitioner. I understood this and said, "Gentlemen, whilst I cheerfully surrender to age and experience, permit me to say that I wish this was a case of typhoid fever; if it was I would have no fears of the result, but as it is a case of puerperal mania, a very bad case, she will be a corpse before twelve o'clock to-morrow. They both left with the promise to come to breakfast the next morning. I added, "If you do not you will not find her alive." At eight o'clock Sunday morning, just as the doctors were riding up, she ceased to breathe. I think nothing would have saved this woman, but were such a case to occur now I would regard it as a case of spinal meningitis, in a lying-in woman, and I would, from the very start, use counter-irritation from the cerebellum down to the second dorsal vertebra, thereby hoping to relieve the brain and then I could have managed the patient better in the exhibition of my remedies.

I was called to see R. F. on the 4th day of April, 1853. I reached his home about midnight; found him vomiting and purging; cramps in the stomach and bowels; æt. 36 years; has always been healthy. Is delirious, delirium resembling that of mania. He thinks he has been poisoned with arsenic intended for the rats. Discharges per rectum frequent, and white as rice milk. Tongue heavily coated with a white fur. Pulse, 130 wiry; face flushed, skin cool and moist; temperature in axilla 103°; pupils contracted; no vomiting of blood, and pulse gives no sign of arsenical poisoning. ℞ Apply mustard draughts to wrists and ankles, and to the epigastrium. Give calomel, 2 gr; ipecac, ½ gr.; sulph. morphine, ¼ gr., every four hours.

April 5th.—Is no better. Rub his neck from the cerebellum and down the spine to the second dorsal vertebræ, with croton tiglium. Continue the powders.

April 6th.—Vomiting has ceased; bowels more quiet; slept some last night; urine high colored, scant, and slight irritability in passing it. ℞ Rub neck with croton tig. again. Give powder containing cal. ½ gr., ipecac ¼ gr., morphine 1/6 gr., every four hours; 20 drops spts. nitre dulce, t. i. d.

April 8th.—Is much better. Found him sitting up. Has had one good bilious evacuation; is rational, cheerful; urine natural in color, copious, no difficulty in passing it; pulse, 85, feeble and softer; eye natural face pale; has slept all night; wants to eat. ℞ Two grs. quinine t. i. d.; chicken soup, ad libitum.

He continued to strengthen until the 12th. On that day a large number of his friends from a distance came to see him. He became excited; symptoms returned upon him, and he died on the 15th of April.

I was called to see T. J. on the 9th day of April 1883. Reached his house about 10 P. M. Is about 45 years of age, a very large, fat, man. Found him suffering from excruciating pain in the right side over the region of the liver, the pains also involving the pleural covering of both lungs; face flushed; pulse 120, corded. Temperature 105°. Tongue heavily coated with a white fur. Pupils contracted. ℞ Apply mustard plaster to side and to epigastric region. A powder containing sub. mur. hydr. grs. iij; ipecac, gr. j; every three hours.

April 10.—Feels no better, still suffering. ℞ Pulv. colocynth comp., pulvis rhei and calomel ää grs. iii; pulvis ipecac, gr. j; oil caraway, gtt. ii; every four hours; remained with him all night. About day-break the morning of the 11th, his medicine, reinforced by strong salt water enema, began to operate and to bring away a great quantity of hardened impacted fæces (scybala). This afforded him much relief to his stomach and bowels, but so soon as his bowels became relieved he was seized with a severe pain in his neck, extending down to his shoulders with tenderness upon pressure over the spinous process of the first dorsal vertebræ, and slight difficulty in passing his water. ℞ Sulph. quinine, grs. iii; cal. ½ gr. ipecac; ½ gr. every four hours. Rub neck with croton oil; 20 drops spts. nitr. t. i. d.

13th.—Is much better; tongue cleaning; pulse 90, temperature 90°; face getting pale; urine more copious and passed without difficulty; has had several fine evacuations per rectum of black, sticky, tarry discharges.

℞. Sulph. quinine, grs. iij, every 4 hours; ipecac, gr. ij; calomel, gr. j., at bed-time. Rub neck again with croton oil.

15th.—Has improved very much; fine eruption on the back of his neck from the croton oil; continued the quinine with minute quantity of ipecac in each dose.

16.—Is doing remarkably well.

℞. Mur. ammonia, grs. v.; ter in die sumendus et vini colchici, gtt. x.; potassii bromidi, grs. xv. Mx. To be taken at bed-time. Chicken soup *ad libitum*.

17th.—Is still improving. Continued the vini colchicum, gtt. x. and mur. ammonia for a few days; had a good recovery; lost about 30 pounds of flesh. If I was asked why I put the 10 gtt. vinous colchicum into his prescription I would say because I knew he inherited a gouty diathesis.

This gentleman's only sister was from home when he was taken sick. Knowing her to be a splendid nurse I had her sent for. The 24th day of April she was seized with violent vomiting and purging, her discharges being of a rice-ground character. She had, however, been complaining of a pain in her neck, and a stiffness in the sterno-cleido-mastoid muscles for several days preceding the vomiting and purging. I saw her on the evening of the 24th and rubbed her neck well with croton oil.

℞. Sub. mur. hydr., gr. j.; ipecac, ½ gr. every 4 hours; quinine, grs. ij.; t. i. d.

She made an early and good recovery; monthly flow coming on the night after the rubbing of her neck.

Between the 15th and 20th of April, 1883, in the little village of Petersburg, half a mile above this gentleman's house, I had twelve cases of this epidemic. One of these cases was a lying-in woman, Mrs. H., the mother of five children. Her labor was natural. In the third week she was taken with a severe pain in her neck. I found her mind was flighty, soreness upon pressure on the spinous process

of first dorsal vertebra, muscles of the neck rigid, contracted, pain in her neck, tongue heavily coated with white fur, temperature 106°, bowels loose, tympanitis, pulse 130, small but thready, pupils contracted, painful micturition, urine high colored and scanty, slight flow of blood from vagina and uterus, large and tender on pressure. She is disposed to sing when not engaged in talking; has not noticed her baby or nursed it for several days; whole course of conduct has been wayward and erratic.

℞. Rubbed down the spine to second dorsal vertebra well with croton oil. Rubbed abdomen and uterine region with spirits of turpentine. Gave her 20 drops sweet spirits of nitre, t i. d. Teaspoonful fluid extract of viburnum prunifolium, at bedtime. A powder containing pulv. ipecac, gr. j.; calomel, 2 grs., every fourth hour.

April 14th.—About the same; continue the same treatment.

15th.—Slightly better; pulse 100, temperature 98°; tampanitis abating; uterine discharge has ceased; skin beginning to feel better; tongue cleaning; continue treatment.

17th.—Is now decidedly better; tympanitis gone; temperature nearly normal; bowels checked; pulse, 85°; urine improved in color and quantity; tongue nearly cleansed; copious eruptions on the back of her neck; mind clear; wants to eat; has slept more for the two last nights.

℞. Teaspoonful Carlsbad salts in glass of cold water. Repeat until it operates. 25 grs. sulph. quinine dissolved in ½ oz. sulph. acid aromat. Ten drops in two tablespoonfuls of cold water half an hour before each meal. Suck through a quill. Made a good recovery.

About the first of April James W., a very worthy colored man, and for years one of my regular patrons, consulted me to know if it would be of any injury to his wife to be baptized at that inclement season of the year. He said Nancy W., his wife, had joined the Baptist church and was very anxious to be baptized. I told him that in my experience of 40 years, I had never known anyone to take cold or to be made sick by being baptized at any time of the year. I had often known the ice to be cut for that purpose. I thought that the excitement on such occasions was sufficient to prevent any harm being done. Nancy, his wife, was a colored woman of fine character, a handsome, strong, hearty woman, 34 years of age; had been the mother of eight children. She was baptized on the 8th of April,—a raw, cold day. On the 25th I was called to see her. Her youngest child was 15 months old. She usually menstruates the 14th month after the birth of her children. Has gone over one month. Her pulse is 140, temperature 106°; small and thready: tongue heavily coated and very white; countenance anxious and has a pinched appearance; pupils contracted; does not seem to know anybody; will sing, cannot make her stop; is an extremely ill woman; husband says she has been complaining of her head and back of her neck and right side for several days, but did not vomit or purge until last night. The discharges are rice ground in color.

℞. Mustard plasters to ankles and wrists, and to epigastrium. Rub neck with croton tiglium from the occiput down the spine to the second dorsal vertebra. Give a powder containing 2 grs. calomel, ½ gr. ipecac and 2 grs. camphor, every four hours.

April 26.—Not much improvement; no eruption; vomiting has ceased, but purging continues; the color is the same; she still sings; pupils still contracted; great nervous prostration.

℞. Gave pill containing: camphor, 3 grs.; gum opium, 1 gr.; calomel, 1 gr.; ipecac, ⅛ gr., every four hours. Repeat the rubbing of her neck.

April 27.—Is not much change. Continue the same prescription.

April 28.—Worse if anything; sings continually; no eruption; vomiting has not returned, but the purging of rice-colored discharges is unabated.

℞. Continue pills, and apply fly blisters to the nape of her neck.

I remained several hours with her and thought I saw a change in her countenance before I left.

April 29.—Is doing better; blisters drew well; her menstrual flow came on last night; several discharges of bilious matter; has slept several hours; countenance improved: asked me if she had been out of her head.

Her seventeen year old daughter, Mary, and her 7-year old son, John Lewis, were taken last night with the same disease. The girl complains of pain in the back of her head and neck and right side. Tongue coated white; pulse 110; pupils contracted; temperature 104°; purging and vomiting.

The boy's tongue is white; purging and vomiting, and if you speak loud he appears scared; pulse, 120; he trembles very much.

℞. Rub both of their necks with croton oil and give the girl a powder containing sub. mercury grs. ij. Gave opium grs. ½, ipecac 1 gr., camphor 2 grs. every four hours. Gave the fifth boy 2 grs. monobromide camphor every two hours.

May 1st, all very much better, and girls' neck well broken out, and her monthly flow came on last night; they all improved steadily. Nancy resumed her work, and until the night of June the 8th was as well as usual. On that day she walked over to a neighbor's house, through a very hot sun, to spend the day. She came home complaining of her head and neck, and that frequent vomiting and purging set in. I saw her in the morning of June the 9th. She complained of her head and neck; she was vomiting and purging, skin cool, pulse 65, slow and deliberate in its rhythm, has sweet, sticky taste in her mouth. Tongue coated with a brown fur.

Diagnosis: Thermic fever or sun stroke, which it proved to be. She soon recovered under bilious purgatives, followed by quinine. She was confined on the 15th of May, 1884; labor natural—a fine boy. One hour after its birth she commenced to flow, which I controlled by rubbing her over the uterus, and giving her 2 drachms of fluid ext. ergot. I had made the uterus contract just after the after-birth was removed, but from the waste of nervous energy it relaxed, and flooding took place. She now looks as well as I ever saw her, but every month or so she comes to me to rub her neck.

Hezekiah W., a son of Nancy, aet 18, a bright, healthy young man, living with me, visited his mother during her first sickness, staying all night. In four or five days he came to my office complaining of a severe pain in the back of his neck. I found by pressure on the spinous process of first dorsal vertebra, that he would flinch, was nervous, tremulous;

cannot tell why, but has slept very little for the last two nights.

Tongue coated and *white*, pulse normal, temperature a little above normal, bowels undisturbed.

Diagnosis: Initial stage of spinal meningitis. nerve centres just commencing to be disturbed.

℞: Rub neck from occipital protuberance down the spine to second dorsal vertebra well with croton tiglium. Take a pill composed of cal. ext. colocynth comp. and pulv. rhei. ää 2 grs., ipecac ⅛ gr., oil caraway gtt. ii, followed next morning by a teaspoonful of Carlsbad salts in a glass of cold water.

Next day, 10 A. M., has slept well, copious eruption has made its appearance, his bowels have acted well, and he says he feels all right.

I mention this case the more particularly because it is a fair sample of some two hundred mild cases I have treated during this epidemic, and I think to have been aborted by prompt treatment.

Aug 2d, Fanny, a twelve-year-old daughter, is taken with pains, skipping about from joint, resembling the migratory pains of inflammatory rheumatism, but her tongue was furred *white*. She was nervous, tremulous, her pulse steady, hearing acute.

℞: Rubbed neck from sphenoid bone down to second dorsal vertebra with croton oil. Give a pill composed of calomel, 2 grs. pulv. rhei., 2 grs. ipecac, ⅛ gr. pulv. cubebs, 1 gr. oil cajeput, gtt. ii, every four hours until she takes three pills. Next day follow by teaspoonful Carlsbad salts. Neck broke out next night and her first menstrual flow followed. She soon recovered.

Little Dan, a bright little boy aged five years, was the next case at this house. His affection was grave and serious; he recovered, however, and is as bright and sprightly as he was before the attack. Willie, young man aged 19, was the next. Attack slight; was abated by the same remedial agents used in Hezekiah's case, only leaving the husband and a little two year old girl, and the baby, to have the disease at this house. At this house and two other houses, Mr. and Mrs. S—, the disease was seen in its most pestilential form. Nancy's house is situated on the side of a hill, where the drainage is good, water used is from a spring where there can be no contamination. There is a cellar under the house. About 100 yds below Nancy lives F. G., her mother (and her nurse during her sickness). This family consists of F. G., her daughter Francis N., two children, and two orphan children of a deceased daughter. First the old lady had the disease, then F. N., then her two children, and lastly the two orphans. These attacks were marked by all the prominent symptoms characterizing this epidemic, and as they all recovered under very much the same plan of treatment, I think it useless to go into details, and mention these cases more from the fact that they bear the presumption of having been contracted at the house of Nancy, through her mother, who nursed her. A little over 100 yards above Nancy's house lived Robert G., her brother, his wife and four children. The children, especially the eldest, and himself were often at his sister's house. His eldest daughter was taken first, then himself, then his second daughter. His wife was confined during his eldest daughter's sickness. Labor more tedious than any of her former labors. Uterine contractions irregular, and want of nervous energy in the uterus. Child was strong and well formed at birth. Lived about a month, and died suddenly without my seeing it. It died, no doubt, however, from spinal irritation. The other children, if they have had the disease, it was so slight that I did not see them.

On the 4th day of April 1883, Aldridge V—, colored, came to my office to consult me. Is a laborer for Mrs. J. S., and lives in an apartment of her kitchen three-fourths of a mile northwest of Markham. His pulse was 125, apparently compressible, but upon firm pressure it imparts a peculiar "thrill" to the finger. Temperature in axilla 104°; is very weak and tremulous: his tongue was white and heavily coated; his breathing short and abdominal, bowels very loose; complains of pain in back of his head and neck; has not been able to sleep for three or four nights; mental faculties weak. Press over the spinal process of first dorsal vertebra and he flinches. Sterno-cleido-mastoid muscles stiff and sore.

℞: Go home quietly and slowly, keep still and quiet for three or four days; eat very little, and let the little be light. Rubbed his neck from occipital protuberance down the spine to second dorsal vertebra freely, with croton tiglium. Take a powder containing sub. muriat. hydrarg, gr. ij; ipecac, gr. j; every four hours, until takes five powders. Twenty drops sweet spts. nitre, t. i. d. Then take teaspoonful of Carlsbad salts in half-glass cold water, followed by 3 grs. quinine and 10 drops sulph. acid arom. t. i. d., half hour before eating. Rub back with croton oil every night until the eruption appears.

I wish it to be remembered that this man Aldridge V., lived with Mrs. J. S——. His was the first case on her premises, and at her house is where this epidemic seemed to show its most pestilential power, even more so than it did at Nancy W——'s house.

The next case here was Julia, a colored woman living under the same roof with Aldridge, and probably giving him his medicine. She had also been baptized on the 8th of April. I was called to see her on the 24th of April. Same symptoms manifested themselves and the same treatment adopted in her case that had been used in Aldridge's case. Next her little son is taken and recovers under similar treatment.

After this case the disease appeared to slumber, or lie dormant, at this house until the following September.

On the 21st day of September I was called to see T. S——, a strong, hearty young man. His face was flushed; temperature, 100°; breathing rapid; pulse 110, wiry; pupils contracted; tongue heavily coated and very white. He seems astonished at my coming to see him. He says "he is not sick, only has a little pain and stiffness in his neck and cannot sleep."

℞: Mustard plaster to the back of his neck. Take a powder of calomel, grs. ij.; ipecac, gr. j., every four hours utill I see him again.

24th.—No perceptible change. Treatment continued and neck rubbed with croton oil.

25th.—About the same. Complains of some difficulty in passing his urine. Pulse hemorrhagic. Rub his neck again from occipital bone down the spine to the second dorsal vertebra; with 20 drops spirits of nitre dulce t. i. d. Take of calomel ½ gr., ipecac ½ gr., and sulph. quinine grs. ij. every fourth hour.

26.—Nose bled last night; eruption on the neck; skin becoming moist; bowels about right; tongue

clearing; pulse getting quieter; mind clearing up; a decided morning remission.

℞: Omit calomel and give quinine and ipecac in same doses; continue the nitre.

27th.—Is improving; says he feels so weak, so very weak he thinks he never can get up; pulse 80; tongue nearly clear; gentle perspiration; bowels just open enough; kidneys acting well.

℞: Continue quinine alone with spirits of nitre.

28th.—Hemorrhagic pulse has passed off; tongue clean, free of fur; is hungry.

℞: Twenty-five grs. quinine in ½ ounce of sulph. acid arom. 10 drops in two tablespoonfuls of water, t. i. d. Suck through a quill. Feed him a little and and often.

Oct. 1st.—He is all right. Rubbed his neck and turned him over to the cook. It was just 30 days before he was out to work.

Was called the night of the 24th of October, 1883, to see Miss M. S——. She had been all along very anxious to know if I thought she would "catch" the fever. I said all I could to allay her uneasiness and as three of my first cases (Julia, at this house, Robt. G. at a house 300 yards below, and Nancy W., a few miles off) had all recently been baptized I was at first disposed to think "religious excitement" was the exciting cause of this disease, nor was I at that time prepared to believe that a nervous disease could be amenable to the same laws governing other epidemic diseases. The first night I saw her she had all the wild and imaginative symptoms of hysteria, but I saw at the same time she had the white tongue, the rapid, thrilling pulse, pain in the neck, stiffness of the sterno-cleido-mastoids; temperature 101°. She would not consent to my leaving the house, so I staid over all night.

At 11 o'clock A. M., the 25th, her condition was rather excessively nervous; tremulous, alternately laughing, crying and scolding, because I would not do anything for her, but was willing to do everything for brother Tom; "she was as much my patient as Tom was," etc., etc. Great disposition to talk. Hearing very acute, a crimson flush on each cheek, temperature 100°, pulse 120, hemorrhagic, tongue thickly coated, fur *very white*, rigidity of the sterno-cleido-mastoid muscles, pain back of head and neck and right side, eyes bright, shiny, pupils contracted, almost insensible to light, "a sweet, sticky taste in her mouth," has not vomited, but bowels moving off, discharges, rice-colored.

℞: Calomel, 2 grs., sulph. morphine ¼ gr., ipecac gr. ⅛, every four hours. Mustard to the back of her neck and to the epigastrium.

29th. No perceptible change; treatment continued, and rub neck with croton tiglium; continue treatment.

30th. Is about the same. Kidneys not acting, almost suppression, no eruption, bowels very free.

℞: Rub neck again. 20 drops spts. nitre; powder every four hours, containing gum opium 1 gr. ipecac, 1 gr. calomel, 2 grs. fly blister, to nape of neck; let stay on all night.

Nov. 3d. Has done well. Monthly flow has come on, is very free; skin feels better, bowels yet loose, tongue cleaning.

℞: Rub over region of the liver with dilute nitro-muriatic acid. Give five drops in wine glass cold water sweetened with loaf sugar, t. i. d. Suck through a quill. Continue pill every 6 hours.

5th. Tongue still improving. Begins to sleep; bowels yet loose, hearing still very acute, monthly flow still free. "Sweet, sticky taste has returned."

℞: Calomel 2 grs., ipecac ⅓ gr., sulph. quinine 2 grs., every four hours until she takes 3 powders. Camphor and opium pills at bedtime. Follow powders next morning with teaspoonful of Carlsbad salts in glass of cold water.

7th. Sweet, sticky taste gone, tongue clean. Hemorrhagic pulse gone, bowels move quietly.

℞: Quinine 3 grs., nitro-mur. acid, gtt. 5 in half wine-glass sweetened water, t. i. d., suck through a quill. Bromide ammonium 15 grs. at four o'clock and at hora somni.

10th. Is doing very well. Continue.

11th. Continue.

14th. Doing well—very well. Continue.

19th. Is convalescent. Continue acid and quinine a few days longer; 1 comp. assafœtida pill, t. i. d.

25th. She is all right. Handed her over to the cook.

The sincere friendship that sprung up in my heart for this interesting young lady, will last through life, and I don't doubt that she will ever cherish for me the purest and most sincere friendship. She was engaged to be married at the time, and when she came perfectly to her self, she wanted to know if she had told me any of her love secrets. My reply was: "Miss Molly, 'from the fullness of the heart the mouth speaketh,' but it makes no kind of difference, for no mortal soul shall know what you said and what you did not say."

On the 12th of Oct., E. S., another brother, consulted me at my office with all the symptoms of this disease in but a mild form. I rubbed his neck, gave him some bilious medicines, followed by quinine, and he recovered without taking to bed.

The same happened with L. S., another brother, who commenced to complain Dec. the 2d. I think I rubbed his neck twice. He recovered, however, without going to bed.

W. H. S., another brother, about forty years of age. Was hearty and robust until he made a trip to California; here he contracted malaria, returned home and commenced to have hemorrhage, followed by abscess of the lungs; abscess has been opened and is kept running; this I thought would be sufficient to keep him from contracting the disease. Has to take a regular supply of whiskey. He holds the the position of superintendent of public schools for Fauquaer county. He is crowded with business which he will persist in attending to, although for the last week he has shown unnatural mental excitement. Talkative did I say? why there is no end to his talk. Face flushed; appetite gone; his whiskey goes against him; tongue heavily coated, very white; cannot sleep or eat; pulse 120, with the peculiar thrill; pupils contracted; bowels constipated; discharge from openings of the abscess disposed to quit running; pain in his neck, and stiffness of the sterno-cleido-mastoid muscles.

℞: Rub neck with croton oil; give powder containing calomel, grs. ij; quinine, grs. iij; ipecac, grs. j; M. One every four hours.

3rd.—Not much change; continue treatment.

6th.—Pulse hemorrhagic; complains of his kidneys and weakness of his bladder. Give 20 drops sweet spts. nitre, t. i. d. Continue quinine powders.

9th.—Nose has bled; has had several good bilious discharges.

10.—Says he feels much better, will sit up in spite of all persuasion.

On the 11th he started from home to attend to his public duties, much against my advice or wish. His pulse was hemorrhagic the morning he started. He continued to travel around attending to his public duties (occasionally having light hemorrhages), until the 9th of Jan. 1884, when he literally broke down mentally and physically, and had to go to bed. He was an extremely ill man from the 9th to the 21st of January. All his symptoms returned, and has also a profuse bloody discharge from abscess of the lungs. He, however, finally recovered, under the frequent application of croton to his neck, and the internal administration of calomel and ipecac. This was followed by mineral acids and enough bromide of sodium to insure sleep. He looks as well know as I ever saw him.

About the time of his recovery the mother is taken. She also recovers with rubbing her neck with croton oil, and bilious purgatives followed by quinine.

None escaped at this house save a sister, and she had had an attack of typho malarial fever some years ago. This house is situated on the south-eastern slopes of the Blue Ridge, is built on a considerable hill, 600 feet above tide water, a steep declivity from the buildings on every side, drainage perfect. Water used from a well in a field where there is no possibility of any contamination. Perfect cleanliness in all its compartments reigns on this plantation. The only source of malaria I could conjecture would be from a heavy field of corn on the west side, and only separated from the yard by a narrow lane.

A hale, hearty young colored man was hired; in a few days commenced to complain of his neck, went home and sent for his doctor, who called it typhoid fever; advised him to drink a plenty of buttermilk and whiskey; followed his advice and was a corpse in twelve hours.

Another hearty young colored man hired by this family, commenced to complain of his head and the back of his neck. He also went home, sent for his physician, who likewise pronounced it typhoid fever. After a long and protracted sickness, running through several months, he recovered. During his sickness several consultations were held and a catheter was passed many times, from the effects of which he is still suffering. His young wife took the disease and died the fourth day. His mother took it and died in a very short time. I did not see these cases, but from all I was told from all the surroundings, I can but believe that it was the same disease that I was treating at Mrs. S—'s and at other places; and that twenty drops of spts. nitre t. i. d., would have prevented the necessity of using the catheter on this young colored man.

It is often advisable to use the catheter early upon the old men, rarely so in the young, and in the young male should alays be avoided if possible.

A few hundred yards below Mrs. S—'s house on the farms of her sons, lived R. G , a colored man and in her employment, and often in her kitchen. He was one of those spoken of as being baptized on e 9th of April. On the 24th of April he was taken; then his four year old son; then his twelve year old boy. They all recovered, under the treatment so often repeated in this paper.

In October R. G. had a second attack; since this second attack he says he feels better than he has for several years. In March, 1884, his wife was confined, labor good, natural, child healthy at birth, but when about a month old died suddenly. In the third week of her confinement she gave evidence of the epidemic influence, terminating in phlegmasia dolens. She made a good recovery.

The strong hearty four-year old boy was so weak after his fever subsided, that he had to learn to walk again.

And here I will remark, I can recall to mind some twelve cases, in the last twelve months, where young children have died so suddenly and unexpectedly that no physician saw them before death.

Visited Mrs. F. on the 16th day of February, 1884. Found her walking the floor, to increase her pains, thinking she was in labor. She is a small, delicate-looking woman, the mother of two bright little boys. Her abdomen is unusually large, and of a peculiar oblong shape, lobular in appearance, the uterus and its contents divided into two lobes, and protruding about the umbilicus at a right angle from the spinal column. The whole uterine region feels hard, as if contractions were continually going on. There is, however, no dilatation of the os, or of the vagina. I remained a few hours, promising to return at twelve to-morrow.

Diagnosis.—Hour-glass contractions going on before, instead of after delivery, and produced by some disturbance to the nerve-centres. A large quantity of liquor amnii; possibly twins or a dying fœtus.

Returned promptly on the 17th. Found her in same condition. Rubbed her neck with croton tig., made her smell chloroform until she felt sleepy. I then commenced to dilate the os, brought on labor pains, and by three P. M. I delivered her of a dead fœtus. Had to forcibly rupture the membranes with sharp instruments, they were so tough. There was a large quantity of the liquor amnii, but no *twins*. Fearing a return of hour glass contraction, as soon as the child was born I took the secundines away. I was not a moment too soon, for as I was bringing them down and out, the uterus gave my hand a *terrible* squeeze. After the child was born and she felt more comfortable, she remembered a severe fall she had received in climbing over a fence some weeks before. She made a slow but good recovery; the slowness I attributed to a large stove that kept her room too warm. I do not like stoves of any kind in the room of a lying-in woman.

Was called to see Mrs. B. the 13th day of March, 1884. She had a fall about two weeks ago. Thinks this is about the time, is going about the room. She thinks the child is dead, and that she is going to have "twins;" in consequence she is exceedingly nervous. In size and shape she is the exact counterpart of Mrs. F. I told her her time had not come; to "*keep her spirits up;*" that there was a larger quantity of liquor amnii than usual, and when her time came everything would come all right.

On the 25th day of March was sent for again. The same hard feel in the uterus walls as in Mrs. F.'s case. Os dilating; presentation, both heels. I had

not much difficulty (some little with the hips and shoulders), until I came to deliver the head; here I experienced considerable difficulty, for it was hydrocephalic, and much larger than natural. Here, too, fearing powerless contraction, I gave her ʒ ij fluid ext. ergot and delivered, and at once delivered the placenta. There was a very large quantity of liquor amnii. The child gasped once or twice and died. Made a tolerable good recovery considering the "nervous shock" she had received. She is about attending to her business affairs, but is a little given to hysteria every now and then.

Was called to see H. M., a previously hearty, and strong colored girl, aged 16, about midnight, May the 5th, 1884. A few hours before was suddenly seized with a strong tetanoid convulsion (eclampsia). She is unrecognizable. Her face, body and thighs are immensely swollen, breathing stertorous; is 8 months gone. Examination per vaginam makes her flinch. Pupils dilated, eyes rolled up, but no dilatation of the os; uterine walls hard, as in the case of Mrs. F. and Mrs. B.

Diagnosis: Eclampsia from uræmic poisoning.

Prognosis: She will die. Effusion of water on brain has taken place. Hour-glass contraction.

℞; Passed catheter and drew off a quart of urine. Held chloroform to her nose, which at once controlled the spasm; on seeing anything like *spasms*, made her smell the chloroform. Gave her comp. ext. colocynth, rhubarb and calomel, of each 2 grs., ipecac ⅛ gr., and oil cajeput 2 drops, repeated until operate, then give castor oil 1 oz. with 15 drops spirits turpentine in the oil.

6th. Has not spoken, breathing stertorous, swel'ing same, made vaginal examination; again hurts her; same spasmodic twitchings; held chloroform to her nose till they pass off. No actions from bowels, bladder empty; pupils dilated, eyes rolled upwards. Rub neck, continue powders, spirits ether, 20 drops, t. i. d.

7th. Pupils dilated, stertorous breathing, but not so loud, swelling the same, bowels freely acted on; has passed no urine. No abatement in the swelling.

I dilated the os uteri and succeeded in delivering her of a still-born child at 8 months.

8th.—Has spoken once; family think her better; has drunk a little soup and a little water occasionally; is really no better; no decrease in swelling; no urine in the bladder, and stertorous breathing continues with dilated pupils. She died the morning of the 9th. The cause, in my opinion, was want of exercise and "epidemic influence," resulting in uræmic poisoning, and from suppression of the urine. From the pain which a slow and carefully conducted examination of her vagina appeared to cause, I suspected that some old ignorant midwife had attempted to take the child from her, before I saw her, without knowing anything about dilating the os, and in her efforts had added metritis to her other troubles.

June 17th a colored man came for me to go to see Mrs. P——, a lady living out of my neighborhood. I found a case of spinal irritation, accompanied by irregular and profuse menstruation. This lady had been seen by several physicians who had failed to relieve her. I succeeded in quickly relieving her by croton oil to the neck, by purgatives followed by Carlsbad salts to relieve constipation, and the administration of the fluid extract of viburnum prunifolium as a uterine sedative.

On the way to Mrs P's he told me he had a colored girl living at his house whom he believed was pregnated, and pretty far gone at that. That he believed she had no sense; that he missed her the morning before, during the fall of a powerful rain; he had hunted in the woods and everywhere for her, and at last, late in the evening, had found her sitting in the chimney corner back of his house; that he carried her in, and ever since she appeared to have pains in her belly and a strange sort of "jerks." Thinks I to myself, another case of "eclampsia."

I found Mrs. P. much improved, but feeling a little nervous. She wanted to see me to know if she should rub her neck with a little more croton. I told her to do so, and rode up to the colored man's house to see what I thought of the girl. I found her lying on the floor comatose. The child had been born about an hour before my arrival. I cut the cord (child seemed strong and healthy) and, with some difficulty from hour-glass contraction, delivered the placenta. No pulse at the wrist and the only sign of life was that every ten or fifteen minutes during a convulsion, her head and heels drawn almost together, would be heard a rapidly knocking sound and spring on the floor. This would continue some twenty minutes, and then she would pass into a cataleptic state. I applied a fly blister to the nape of her neck, with instructions to let it stay on 36 hours. As soon as I could give her anything, calomel, grs. ij.; extract colocynth comp., pulvs rhei, ää 2 grs.; ipecac, ij.; oil cajeput, 2 gtt. Repeat every six hours until it acts on the bowels, followed in twelve hours by oil ricini, ʒ j., with 15 gtt. spts. turpentine added; 15 grs. bromide potash at four o'clock and 25 grs. hora somni. His wife told me as there was no place for her there (a fact; only one small room to the house) they would have to carry her to her father in Upperville next morning. "If you do not, and she is alive day after to-morrow let me hear from her."

I did not hear from her for more than a week; when I did, she was doing well and made a good, a splendid recovery.

Miss E. S., whilst attending a boarding-school in Winchester, Va., was taken sick; after some three or four weeks' treatment and no improvement; her physician advised her father, Mr. H. S., to come for her and take her home. He did so; at home she lingered until the 16th of August, the day I first saw her, growing worse every day. I think her physician thought it a case of hysteria, as she says he told her there was nothing the matter with her, or he may have thought it a case of nostalgia. She is weak, nervous, cannot eat or sleep, menstrual flow irregular, scanty, nearly colorless, sweet sickish taste in the mouth, bowels constipated, tongue heavily furred and very white. Tenderness on pressure on spinous process of the first dorsal vertebra. ℞. Rub neck from sphenoid bone down the spine to the second dorsal vertebra, repeat every night until eruption appears. Take 2 grs. ext. colyc. comp.; pulv. rhei ää 2 grs; ipecac ½ gr.; oil caraway 2 gtt. every night, followed by teaspoonful Carlsbads salts every morning in a glass of cold water until sweet sickish taste is all gone. Then 8 grs. iod. potassium in teaspoonful fluid extract sarsaparilla t. i. d. 23d. Menstural flow has come on improved in quantity and quality, sleeps well, appetite good, tongue clean, is cheerful.

℞. Keep bowels open with Carlsbad salts and continue the iodide potash and sarsaparilla. More exercise in the open air. 28th, cheerful, happy, as well as usual. ℞. Take 6 drops Donovan's solution t. i. d. for one month. By my advice she returned to school and remained in excellent health all the session.

April 28, H. S., the father of Miss E. S., came over to see me at my office, saying that about a week after he brought his daughter home from school, he was thrown from his horse, that he had sent for Dr. S—; had been under his charge for some time, and was growing worse every day; that he could not sleep or eat, that his bowels were bound, had a nasty sweetish sticky taste in his mouth, had a pain in his neck and back of his head extending down his shoulders, that he passed very little water, and it pained him to make it at all. Mr. M— being in my office at the time, he called me out on the porch and whispered to me with great earnestness and solemnity of manner, that unless I could do something for him he believed he would loose his mind, that really he was not fit to attend to any business. I laughed and said, come in, Henry, I will soon make your mind all right, and you can go home and sleep all night. I rubbed him well from sphenoid bone down the spine to the second dorsal vertebra, gave him two powders containing 2 grs. cal. and 1 gr, ipecac, one to be taken at 2 o'clock, the other at bedtime, to take teaspoonful Carlsbad salts in a glass of cold water; next morning, half-hour before breakfast, I gave him 30 drops sweet spirits nitre, in my office. He made me promise to call on the 30th to see how he was "getting along," as he lived out of my neighborhood. I met him on horseback near his home, he looked so cheerful, so well and bright, I rode in and dined with him, and came away entirely forgetting my business was to visit him professionally. However, he came over in a few days to our town on business. I was not at home, but Mr. M—, who was in my office and saw me rub his neck, chanced to meet him and asked him how it had acted with him. "Well," said he, "I will tell you how it acted. I went home took the powder at two o'clock, the other at bed time; undressed went to bed; slept all night, got up in the morning feeling refreshed; took the salts, felt hungry, sat down and eat a hearty breakfast; went out and had a few bilious operations, and have felt first rate ever since, and now I tell you I feel like business."

On May 6 his wife sent for me; her symptoms were the same as those of her husband, save she had purging of rice-milk colored stools. She speedily recovered, under the same treatment as that adopted in her husband's case, except that I followed the Carlsbad salts with the sulph. acid comp. and quinine.

In the first part of September, 1883, his eldest son, R. H. S., came home from Clark county sick. He had a sweet sticky taste in his mouth; pain in his neck and back of his head; tongue coated brown; pulse slow, 60, deliberate in its rhythm; temperature normal; skin cooler to feel than natural; bowels costive.

℞: Rub neck with croton oil every night until eruption appears. Take calomel, 2 grs. and ipecac, t. i. d., followed each morning by teaspoonful of Carlsbad salts until sweet sticky taste is gone. Then quinine grs. iij, ter in die sumendus. Speedy recovery from his thermic fever or "coup de soleil."

May 6th, 1884.—A. S., youngest son of H. S., has just returned from Blacksburg College. The college closed from what was supposed to be a panic of scarlet fever. His room mate died of what attending physician pronounced scarlet fever. He has some debility of the lungs; tongue white, pulse 85; tenderness over the spinous process of the first dorsal vertebra; stiffness of the neck; has sweet, sticky taste in his mouth, cannot sleep or eat; bowels loose, irregular, sometimes too loose, sometimes constipated; slight pain and soreness over left pleura; short hacking cough.

℞: Rub epigastrium up along the sternum to the clavicle, and back of his neck with croton oil. Take powder of calomel, 1 gr.; ipecac, ½ gr., t. i. d., followed next morning by a teaspoonful of Carlsbad salts every other morning until "sweet sticky taste" is gone.

℞: Pulvis ipecac, ʒ i: aquæ, 8 ozs; loaf sugar, 4 ounces. M. S. Tablespoonful t. i. d., or oftener if necessary to make expectoration easy. Then commence and take sulph. quinine, grs. xxx, dissolved in ℥ ss of sulph. acid dil.; 10 drops t. i. d. fifteen minutes before meals.

16th.—Came over to my office; looks well; is feeling fine. I asked him what my old friend, Prof. M. P. Scott, M. D., called the disease his room-mate died with. He said Prof. Scott said it was not scarlet fever, but cerebro-spinal meningitis.

Was called to see Reuben D. in consultation with Dr. S. C. Is the ninth day of his sickness. Has been treated very well for pneumonia, but being worse to-day than he has ever been, his doctor has despaired of his life; hence I am called. Is a strong muscular young man, good broad chest and used to manual labor. To the usual symptoms of pneumonia were added those of brain irritation. He was tremulous, timid, imagined he saw strange sights. Could not close his eyes, has not slept any for some time. Tongue white, hacking cough, no expectoration, except of a bloody, thin, glairy, mucus; countenance anxious; breathing hurried; urine high-colored, scanty and passed with difficulty.

℞: Rub neck with croton oil from occipital bone down spine to second dorsal vertebra; also rub the sternum. Give 5 grs. pulv. Doveri and quinine grs. iij every four hours, 20 drops of spirits nitre dulce t. i. d. and a little hot toddy every four hours.

13th.—Has slept well, expectoration freer and thicker; is not as tremulous or timid; is better. Continued to improve until the night of the 28th, when he took fresh cold, and a relapse was the consequence. Dr. C. being absent, I was sent for. Is very much as he was on the 19th, except that he has "*hemorrhagic pulse*."

℞: Cal. grs. ij, ipecac, gr. j every four hours, ⅙ gr. morphine, hora somni. Rub neck with croton oil. Rub croton oil upon upper part of both lungs. Give hot toddy every four hours, dose oil ricini next morning.

29th.—Has had a slight hemorrhage from the lungs, feels better; continue same treatment; omit the oil.

30th.—Is still improving, beginning to sleep well again, wants to eat; continue the same treatment.

May 31st.—Is very much improved, tongue clean, urine clear, bowels regular, pulse normal.

℞: 25 grs. sulph. quinine, dissolved in half ounce sulph. acid comp.; ten drops 15 minutes before each

meal. Muriate ammonia grs. iij t. i. d. He made quite a respecable recovery considering his relapse. I strongly suspected some of this patient's symptoms being on the *mania à potu* order, and this is why I threw in the hot toddy.

Mrs. L. A. I. paid a visit of a few miles, the day being very sultry and oppressive. She had not felt well for several days, and eat nothing more than is usual with her. Returned home at eight in the night. She was seized with violent cramps, with vomiting and purging. Her husband about daylight missed her out of bed and found her lying on the floor, her head and heels almost touching each other (opisthotonos). He picked her up, laid her on the bed and sent for me; in 18 to 20 minutes I was by her bedside. Found her in a state of collapse, pulseless at the wrists, bathed in a cold, clammy perspiration; rigidity of the masseter muscles, eyes dull and rolled upwards. Cramps abdominal, and between spasms, are the only sign of life. Extremities icy cold.

Diagnosis: A powerful shock from some cause, to the nerve centres.

℞: Mustard to wrists and ankles. Rub neck freely, very freely, and hold chloroform to her nose. Whilst I was rubbing I could see reaction coming on. Chloroform was valuable in controlling the tetanoid spasms. It at once retieved the *opisthotonos*. As soon as relaxation and reaction came on, I gave her a powder containing calomel 1 gr., ipecac ½ gr., sulph. morphine ⅓ gr., every four hours. The first dose closed up the bowels, which I am sure it would not have done if her neck had not been rubbed with croton oil. The catamenia came on the second night as soon as the eruption appeared on her neck.

On the fourth day opened her bowels with Carlsbad salts, and the catamenia being very free, I gave her the sulph. acid comp. and quinine t. i. d. She made very quick and satisfactory recovery. I did not see her discharges, they had been destroyed, but I have no doubt they were white rice colored. The case strongly resembled Asiatic cholera even unto the rapid loss of flesh; the flesh seemed to melt away. It was a powerful nervous shock that caused this attack, assisted by the epidemic influence rioting in our country.

I have seen and treated in the last eighteen months 73 cases, severe cases of this epidemic, that is, cases so severe that if they had not been promptly and properly treated, would have died in 3 or 4 days. Of mild cases and chronic cases I have treated over 200, and in 270 cases there has been three deaths. One of these, not a case of mine, the case of a young gentleman in Rappahannock county, and his death was caused by drastic purgatives, which produced hemorrhage from the bowels, and there was not vitality enough when I reached him to respond to proper medication.

I have recorded this large number of cases to show that spinal meningitis may by reflex action invade any organ in the human system, most frequently the stomach and bowels, producing choleroid symptoms, but often the kidneys, the lungs, the bladder, and I think occasionally the urethra.

I have seen cases of gonorrhœa that balsam copaiba failed to cure until the patient's neck was rubbed, his mind was sound, and then it would quickly yield to the balsam. Who is it, what old practitioner of medicine is there that has not seen cases of gonorrhœa in the head, instead of in the penis? From what I have said heretofore it is safe to believe that I consider this epidemic really sthenic,—sthenia clothed in the garments of asthenia. In typhoid fever there is anemia, anemia of the upper portion spinal cord of of the brain and its meningeal coverings. In epidemic spinal meningitis there is hyperæmia of these parts.

When I reach the bedside of a patient, I usually ask myself these questions: Is this case sthenic or asthenic? Have we any strumous taint here? Is there any hereditary gout? Is there any rheumatism cachexia here? Are there any signs of secondary or tertiary syphilis? Is there any evidence of scurvy?

I will briefly allude to one other case. Miss S——, of Clark county. She had been sick three weeks; had been abandoned by her physicians. When I reached her house I found her mother in despair. To her agonizing question, "What is the matter with my daughter?" my reply was, "Spinal meningitis, madam. Relieve the spinal irritation by counter-irritation, and her menstrual flow will then come on, and your daughter will soon be all right." Her mother's reply was, "this is strange; the first week of her sickness she was continually spelling 'meningitis,' and I heard her one day ask one of her doctors how he spelled 'cerebro-spinal meningitis.'" I said to her, "do as I tell you, and if your daughter is not both mentally and physically improved in one week, able to walk about her room, you may consider me a 'know-nothing.'" In less than a week I received a letter from Mrs. S——, saying her daughter was much better, ever so much better, in every respect; was walking about the room, and in a few days contemplated a trip to Winchester. This interesting young lady is now on a trip to my county (Farquaer). I saw her a few days ago. She is cheerful, bright, and at the hospitable mansion of Mr. Henry S——, of Farquaer, she is certainly enjoying herself with her young friends.

There is a striking similarity in the fact of her spelling meningitis and the case of congestion of the brain in which the patient continually called himself John S.——.

On New Cardiac Medicaments.

A Clinical Lecture by Dr. Dujardin-Beaumetz, Member of the Academy of Medicine, Physician to the Hospital Cochin, Paris, France.

GENTLEMEN:—I shall devote this lecture to a consideration of the new cardiac medicaments, and by that word *new* I mean medicines which have been introduced into therapeutics the past five years.

Three new medicaments have been recently brought into repute in the treatment of heart diseases, and it is to these chiefly that I shall call your attention: convallaria, caffeine, and trinitrine; the two first being applicable to mitral affections and acting as tonics of the heart; the third, on the contrary, being chiefly of use in diseases of the aortic orifice and aorta. This distinction between mitral and aortic diseases, from the standpoint of therapeutics, is one which I endeavored to establish in my lessons on clinical therapeutics, and seems to-day to be generally admitted.

You know that from the point of view of treat-

ment I have maintained that it was necessary to make a marked difference between mitral and aortic affections. In the first, we must endeavor to augment the force of the heart to make it equal to its tasks, and we attempt this by means of the group of medicines known as *tonics of the heart*. In order better to mark the time when the cardiac tonics are of the most service, clinicians have divided into several periods the cycle which the heart affection traverses, from the simple lesion of the orifice to the cachexia, and Fernet and Huchard have characterized these periods by a particular name. In the first period, to which they give the name *eusystolic*, there is lesion of the orifice without alteration of the myocardium; hygienic means are alone of utility in this period. In the second period, which they call *hyper-systolic*, cardiac hypertrophy comes in to compensate the troubles due to the lesion of orifice, and here, too, hygienic treatment suffices. In the third period, called *hypo-systolic*, the equilibrium is broken, the compensation is insufficient, the tonics of the heart are necessary. In the last period, called *asystolic*, the heart is affected with fatty degeneration, there is, as Gubler says, cardio-plegia, and the most energetic of our cardiac tonics, caffein perhaps excepted, become impotent to combat this state.

In diseases of the aortic orifice therapeutics must be directed differently, and we are now concerned with combating the two symptoms which result from lesions of this orifice, namely, the cerebral anæmia and the irritation of the nerve plexuses which surround the aorta, and it is here that the medicaments which stimulate the cerebral circulation, and those which diminish nervous sensibility, find their application.

It must be understood that this distinction in treatment is only applicable to one phase of diseases of the heart, and that in the case of affections of the aortic orifice, insufficiency, for example, there arrives a moment when, in consequence of dilatation of the heart, there is mitral insufficiency; then all the troubles which characterize this latter disease appear, and tonic treatment is imperatively needed, together with those remedies that favor the cerebral circulation and relieve distress.

As for the tonics of the heart, digitalis deserves the first place; next in importance (strange to say), comes bromide of potassium, as I have shown in my clinical therapeutics; next in order we should now add convallaria and caffeine.

CONVALLARIA MAJALIS.

Convallaria majalis (muguet, lily of the valley), is a plant with rhizoma, which grows in abundance in our woods, and which presents at this very moment its racemes of odorous white flowers. The first analyses of this plant were made in 1858, by Wals, who found there two glucosides, convallamarine and convallarine In 1865, Marmet studied the physiological action of these two glucosides, and, according to him, convallarine is purgative, and convallamarine toxic. In 1883 Ernest Hardy, then, M. Tanret, each independently, perfected the mode of extraction of these two substances.

In China, the inhabitants make use, as a succulent vegetable, of the young shoots of a species of convallaria, *polygonatum japonicum*, which has with them much the same place as asparagus has with us.

In Russia, they employ, as a diuretic another species of convallaria, the *convallaria polygonatum*, so well known in our woods under the name of Solomon's seal; such use of this plant, probably, first led the Russian physicians to make trial of the lily of the valley in heart affections. I say "first," for it is probable that the Russian physicians did not know that in the middle of the 18th century (1745), Cartheuser, the celebrated physician of Frankfort on the Oder, in his rudiments of materia medica, mentions among the numerous properties which he ascribes to the lily of the valley, that of calming cardiac palpitations, and of toning up the weak heart, and that Ferrein, in 1770, mentions, also, the diuretic properties of convallaria. In his recent thesis on convallaria, Nogues has clearly proved the priority which is due to Cartheuser. Ernest Labbée has, however, shown still more recently that Matthiolus, in 1580, in his communications of Dioscorides, refers to the lily of the valley as being very beneficial in palpitations; "*it fortifies the heart*," he says.

However this may be, all these facts had been forgotten when appeared the first researches, made under the inspiration of Botkin and his pupils, Bogojavolenski and Troitzi.

Bogojavolenski pointed out, in 1880, the results obtained by the employment of convallaria. Isaieff, Kalmikof, in 1881, Troitzi, in 1882, Dary, in 1881, and finally Germain Sée, in 1882, repeated these experiments, which he completed by new researches, and made known the advantages which we may derive from the employment of this medicament.

The researches of the Russian physicians, those of German Sée and of Rochefontaine, and those still more recent of Coze and Simons, have shown that in animals, and especially in cold-blooded animals, the divers preparations of convallaria, have a real tonic action on the heart. The sphygmographic tracings which these last two experimenters have furnished, show that not only convallaria diminishes the number of pulsations, but that it does this, while augmenting the amplitude of the contractions. It is to this period of slowing and augmentation of amplitude that these experimenters have given the appropriate name of the *therapeutically useful period* of convallaria, and when you compare this useful period with that which belongs to digitalis in like doses, it is found that the superiority is to be assigned to convallaria.

From the standpoint of its action in man, this medicine is proved to be one of the most powerful diuretics known, and Prof. Sée ranks it before digitalis. It is applicable then, especially to mitral diseases with dropsy; at the same time, it is well to make this reserve, that when there is albuminuria, the diuretic action is considerably lessened.

Convallaria calms also the palpitations and disorders of the heart which are purely functional in character, and if I add that the preparations of this medicament have no toxic action in man, I shall have pointed out their principal advantages.

Since the labors of the Russian physicians, and especially since the communication of Prof. Sée, there have been a multitude of trials made with convallaria, and we know to-day, thanks to this experimentation, the true value of this medicament.

In Germany convallaria has had but little success, especially if we are to judge by the article published by Stiller, who in twenty-one cases of affections of

the heart where convallaria was employed, saw no positive results, except in two cases.*

In America convallaria seems to have had better results, as you will see by referring to the communications made by my excellent friend, Dr. Hurd, of Newburyport, and Drs. Beverly Robinson, Taylor, Polk, Smith,† and others, all of whom have had success with this medicament.

In France, if we can base our opinion on treatises published since the communication of Prof. Seé, and discussions before the Society of Therapeutics, it is plain that if the profession is agreed on admitting the diuretic effect of convallaria, the action of this medicament is nevertheless regarded as very uncertain. This is the view very clearly expressed by Peter in his clinical lessons on diseases of the heart; by Constantine Paul, in his late work‡, and it is also my conclusion. In fact, in the numerous trials in which I have made of convallaria, I have sometimes met with success—in a small number of cases it is true, but very generally with failure.—Despite this uncertain action, however, I believe that we do well to continue prescribing this tonic of the heart, because it is perfectly safe, and because it can be utilized at such times as we are obliged to leave off the administration of digitalis.

You know, in fact, that everybody is agreed at the present day in the expediency of not giving the preparations of digitalis continuously, and in interrupting for a certain time treatment by digitalis, to renew it again after a suitable interval. It is during this period of suspension of the foxglove that you can employ convallaria, taking care, of course, not to attribute all the diuretic effects thereafter obtained to this medicine, for, as you know, the action of digitalis on the kidneys is prolonged for some time after you cease its administration.

How and in what dose shall you give convallaria? All parts of the plant, flowers, leaves and root, have been employed. The most active parts are the flowers; then the leaves; the plant may be used in the fresh state in the form of alcoholic extract, or in the dry state, as tincture or as extract. ' The infusion is an untrustworthy preparation. The extract is generally used; that may be either fluid or solid; that made from the flowers and the leaves is preferred. I here place before you the various extracts of flowers and leaves, which have been furnished me by M. Adrien, and you observe that they are of brilliant black appearance, of a quite peculiar bitter savor, and soluble in every proportion in water and in alcohol. A good diuretic mixture, of which a tablespoonful three or four times a day may be given, may be made by rubbing up a couple drachms of the extract of the flowers and leaves, in eight fluid ounces of decoction of broomtop. The American fluid extract, made by Parke, Davis & Co., is a quite reliable preparation. I here show you a sample. You remark that it has perceptibly the odor and taste of the flowers. The dose of these liquid extracts is from ten to thirty drops, three times a day. The dose of the solid extracts is about ten grains, but the extract prepared from the root is very much weaker. Whatever form you may choose, do not count on obtaining certain results, and be prepared for disappointment.

CAFFEINE.

Quite different is the preparation of which I am now to speak. Caffeine is, in fact, one of the best tonics of the heart, and in the last stages of cardiac affections it will render you more service than digitalis. Extracted for the first time in 1820, by Runge, obtained under the name of theine, from tea, in 1827, and in 1840 by Martius, from *guarana paullinia*, under the name of guaranine, also from Paraguaian matée, under the name of matein, by Stenhouse in 1840. Caffeine, which has an atomic formula of $C_8H_{10}N_4O_2$, may be got from these different substances, to which we may add that precious fruit on which we are experimenting this moment in our hospitals, and of which the negroes of Central Africa make so great account, kola (sterculia kola), and which contains, as has been shown by the researches of Heckle and Schlagdenhaufen, caffeine and theobromine, and which has even more caffeine than coffee; the last, in fact, contains from ten centigrammes to a gramme and a half, in every hundred parts, while kola contains twice as much.

Caffeine presents itself under the form of a white crystalline salt, soluble in 90 parts of water. As Tanret has shown, its basic properties are very weak and there does not exist, properly speaking, either acetate, citrate, valerianate, or lactate of caffeine. The bromhydrate and the chlorhydrate appear in the form of beautiful crystals, which are, however, insoluble. Tanret, therefore, has proposed a more stable combination of caffeine with salicylate or benzoate of soda. The first contains 45 per cent caffeine, the second 61 per cent. These combinations being quite soluble, and having no local irritant action, may be used by the subcutaneous method. These are the formulæ which Tanret has proposed:

℞. Benzoate of soda..... 2.95 (gr. xliv.)
Caffeine..... 2.50 (gr. xxxvi.)
Distilled water... ..... 6.00 (gr. xc.)

M. Fiat solutio.

Each syringeful, or about 15 minims, contains a full dosé of caffein (In other words, a cubic centimetre [about 20 drops] has 25 centigrams).

The second formula is as follows:

℞. Salicylate of soda..... 3.10 (gr. xlvii.)
Caffeine..... 4.00 (ʒ i.)
Distilled water..... 6.00 (ʒ jss.)

M. Dissolve with the help of heat. Each cubic centimetre contains 40 centigrams caffeine.

You need, however, resort to the hypodermic method only in exceptional cases, as when the patient is taken with vomiting, or when the caffeine provokes gastric irritation and pain. Ordinarily the caffeine may be given in pills, in granules, in capsules, or in potion.

The pill form is not much employed. This results from the fact that the pills may pass through the intestinal tube without undergoing solution and absorption, or the absorption may be incomplete, which is a disadvantage, seeing that caffeine is dear. The granules are good preparations, but are open to same objection, and to get the full benefit of them large doses must be given, even two grammes (ʒ ss) a day.

* Stelier, Versuche über Convallaria Maialis bei Herzkrankheiten, (Wien. Med. Woch., No. 44, 1882.)

† THERAPEUTIC GAZETTE, 1883, p. 283, also p p. 365, 126, etc., etc. See also Med. Record, vol. 23, p. 413.

‡ On Diseases of the Heart. Published by Wm. Wood & Co., Medical Library, series 1884.

As for the capsules, this is an excellent mode of administration, and you may prescribe in this form doses of from 25 to 50 centigrammes (4 to 8 grains). They have, however, the inconvenience of causing distress in the stomach (one of the disadvantages of caffein in concentrated form). Therefore I prefer the liquid form, giving the medicine with a large quantity of the fluid menstruum.

You may, for instance, give three times a day a ten-grain dose of caffeine (pretty large doses are necessary as I shall tell you hereafter); this may be given along with ten grains benzoate of soda, a little syrup and enough fennel or peppermint water to make up three or four ounces. The following formula may be more convenient for private practice:

℞. Caffeine..... ...	7.00	(gr. 105.)
Benzoate soda.....	7.00	(gr. 105.)
Water.....	250.00	(℥ viij, ʒ ijss.)

M. Each tablespoonful of the above mixture contains about 50 centigrames (or 7½ grains) caffeine.

Leaving one side all which does not concern the action of caffeine on the circulation, I shall take up this aspect of the question, and shall now consider the physiological effects of caffeine on the heart.

When you take a glance at what has been written relative to the action of caffeine and of coffee on the heart, you observe that the opinions may be ranged in three groups; some, as Gentilhomme, of Rheims, claiming that caffeine has no action on the heart; others as Troussean, Rognetta, Dettel, etc., that it accelerates the pulsation of the heart; others still, notably, Caron, Meplain, and Fonssagrives, that it slows the pulsations of that organ.

Whence comes this diversity of opinions? It results from this fact, which is applicable to so many of the tonics of the heart that the toxic effects are absolutely opposed to the therapeutic effects, and while caffeine in moderate doses (as Giraud and Leblond have proven *) diminishes the pulsations while augmenting the vascular tension—*i. e.* by acting as a cardiac tonic—in larger doses it produces toxic effects, the heart-beats are accelerated, and become irregular; the caffeine has become a poison. You see then that the effects obtained by experimentation on animals have been in accordance with the dose administered.

It was in 1839 that an anonymous writer in the Bulletin General de Therapeutique, first pointed at the diuretic action of coffee and its applicability to the treatment of dropsies; Zwinger, a Dutch physician, had, however, as early as 1725 recommended coffee for dropsy. Honoré, in 1846, published an article in which he reported three cases of albuminuria with anasarca, treated successfully by infusion of coffee.

In 1863 appeared the first treatise on caffeine by Kœschlakoff, of St. Petersburg, who reports two cases of parachymatous nephritis with hypertrophy of the heart treated by caffeine; a remarkable diuritic action was noted, simultaneous with slowing of the heart's pulsations and increase of arterial pressure.

In 1866, Prof. Jaccoud took the lead in the employment of caffein in cardiac affections, and we find in his *Clinique Medicale à la Charité*, this medicament recommended, not only for diseases of the heart, but also for the treatment of renal diseases with albuminuria. In 1877 Gubler, who considered caffeine as the ideal diuretic, made a communication to the Societé de Therapeutique in which he strongly vaunted the remarkable effects of caffeine in cardiac affections. Still later, Brakerwidge, who has made more experiments with citrate of caffeine than almost any other man, has called attention to the extraordinary merit of caffeine as a diuretic.

Thus far, however, but small doses of caffeine had been given, and this was in accordance with the practice of Gubler, who did not exceed the amount of eight grains a day. Trials simultaneously made at Lyons by Prof. Lepine and at Paris by Dr. Huchard, showed that these doses were insufficient, and that we ought not to hesitate to give as much as two grammes (or half a drachm) a day of this medicament, in order to obtain all the benefit which may be derived from it; and you will find in the theses of Giraud and Leblond the results obtained in the practice of Lepine and Huchard with these large doses of caffeine.

The great advantage of caffeine is, that it appears to possess diuretic effects even when the kidneys are badly damaged, and you may even get good results with it in advanced stages of heart disease. You will be able to see in our service veritable resurrections effected by this marvelous therapeutic agent, and this even in aged persons; therefore, you ought to have these facts always in mind, and remember that in the asystolic period—period of cardioplegia, as Gubler called it—when you have exhausted the remedial powers of all the other cardiac tonics, you may still obtain signal success with caffeine.

The fruits of kola, with which you have seen me experiment recently in our wards (having obtained a supply directly from Dakar), may be utilized in these cases. Containing, as they do, a considerable quantity of caffeine and theobromine, with fatty matter, and being thus constituted an aliment and a tonic of the heart, our trials with this new medicament show that this estimate is well founded.

I ought here to mention erythrophleine, which Gallois and Hardy have extracted from the *erythrophleum guinenseum*, and which has been physiologically studied by Professor Germain Sée and Dr. Rochefontaine recently. According to these experimentors erythrophleine acts as a tonic of the heart. The toxic principle of erythrophleine is almost the same thing as amorphous digitaline. I have given the tincture of erythrophleine in 40-drop doses to patients suffering from mitral disease, but with variable results; sometimes I have obtained a powerful diuretic action, and sometimes no action whatever. Further trials with this drug are necessary.

TRINITRINE (NITRO-GLYCERINE).

This new remedy is only of use in diseases of the aortic orifice. You well know the difference, from a therapeutic point of view, between mitral and aortic affections.

In aortic disorders what we have to combat are the symptoms arising from the cerebral anæmia which comes from the trouble inflicted on the arterial circulation, and which manifests itself by pallor of the countenance, attacks of vertigo, lipothymia, and even syncope; we are called upon also to mitigate the distress which accompanies these sorts of affec-

* Giraud. Contribution to the physiological and therapeutical study of Caffein. Thèse de Paris 1883. Leblond, Thèse de Paris, 1883.

tions, whether this be in the form of symptomatic neuritis of the cardio-pulmonary plexus, a result of the propagation of the peri-aortic inflammation to the numerous plexuses which surround that vessel, and thence to the peripheral nerves; or whether we are concerned with that veritable angina pectoris, of which Huchard has so well explained the mechanism in his recent work, showing us that these horribly painful paroxysms of thoracic angor result from ischemia of the cardiac muscle.

You all know from a physiological as well as from a pathological standpoint, the excruciating suffering which accompanies sudden arrest of the circulation in a department of the economy furnished with sensory nerves, and you doubtless recall to your mind the distress of patients affected with senile gangrene. When the coronary arteries become obliterated, the same painful phenomena are manifested and extend to the entire cardio, pulmonary plexus. The facts of Huchard, of Potain, and of my colleague, Herard, communicated to the academy of medicine, illustrate well the mechanism of angina pectoris.

Every medicament which energizes the cerebral circulation and that of the cardiac muscle on the one part, and calms pain on the other, is then useful in the treatment of aortic affections.

Opium, and especially morphia, give excellent results in these affections, and precisely by reason of the physiological properties of this medicine, which acts in these cases as a tonic and as a calmative. I have also advised in like cases the nitrite of amyl. This nitrous amyl-ether, studied these late years, physiologically, by Guthrie, in 1859, in 1863 by R. Richardson, and of which you will find an account in the thesis of Marsat (1875), and of Veyrieres, presents this curious property of being a vaso-dilator poison, especially for the capillary system of the encephalon, and it is only necessary to breathe as you have seen done, a few drops of this medicament, to obtain a marked congestion of the face, which extends to the deeper parts, as you could convince yourself by direct examination of the brain in animals, or by ophthalmoscopic examination.

I have then employed the "congestioning" properties of this drug in the treatment of aortic affections, and in the first edition of my lectures on clinical therapeutics, nearly seven years ago, I called attention to the good results which may be obtained from nitrite of amyl; only this medication has not come into general use, and this, for two reasons more especially: 1st. On account of the transitory effects of the medicine; next on account of the tolerance of the economy which, soon becoming habituated to these effects of vascular dilatation, fails to derive a therapeutic benefit. Therefore, I have recently substituted trinitrine for nitrite of amyl, the tri-nitrine having all the advantages of the other without the disadvantages.

Trinitrine was discovered in 1874, by Sobrero, and it was applied to the arts by a Swedish engineer called Nobel, in 1864, under the name of dynamite, and you are all acquainted with the uses which have been made of this substance by miners and engineers. It has also received the name of nitro-glycerine, for, in fact, tri-nitrine may be considered as glycerine in which three atoms of hydrogen are replaced by three atoms of hyponitrous acid. In fine, homœopaths have utilized the substance under the name of glonoine.

From a pharmaceutical point of view you should make use only of the 1 per cent. alcoholic solution, adding 10 drops to 100 grammes of water, of which mixture a tablespoonful may be given, morning, noon, and night.

The prescriptions may be written as follows:

℞. Alcoholic sol. trinitrine,(1%)..... gtt. xxx.
Water..... ℥ x.

M. Sig. A tablespoonful three times a day.

You can also employ the hypodermic method, using the following solution:

℞. Sol. trinitrine (1%)..... gtt. xxx.
Cherry laurel water..... grammes. x.

M. Sig. For subcutaneous use. Every fifteen minims contains three drops of the solution of trinitrine.

When you study the physiological action of this medicine, you observe that experimenters have advanced, so far as the toxic properties are concerned, opinions the most opposite, and while Bruel regards it as one of the most energetic poisons, we see Vulpian on the contrary, maintain that its action is almost nil in animals, and in the experiments which I undertook anew with De Marieux, who has written an admirable thesis on this subject, we discovered why this objection exists. It is, in fact, because while tri-nitrine seems to have a very energetic action on man, its physiological effects are scarcely appreciable in animals, as the dog and the hare, so that while ten drops of a one-per-cent. solution determine in man toxic phenomena, you can introduce into the system of dogs as much as three drachms of the solution, and a proportionately large quantity in hares, without producing symptoms of poisoning. This shows you one of the difficulties of experimental therapeutics, and and how careful you should be, in concluding from experiments on animals, as to what should take place in man.

When then you introduce under the skin of a man, three or four drops of tri-nitrine, you observe in a few seconds congestion of the face, the skin becomes warmer and is covered with sweat, the eyes are injected; the individual has headache, buzzings in the ears; it seems to him, as he says, as if his head would burst; the beating of the heart becomes more active. These effects are not only localized at the periphery, they may also be observed by the ophthalmoscope in the optic disc; the deeper parts are flushed as well as the peripheral. These are, you see, the same phenomena as those which are determined by nitrite of amyl, with this difference that the effects are more lasting.

It is to the homœopaths that we owe the first medicinal applications of tri-nitrine, and in 1848, almost as soon as it had been described, Hering, of Philadelphia, recommended this medicament in homœopathic doses, for certain cerebral affections, and faithful to his principles he prescribed it especially in cases of cerebral congestion and of apoplexy. Dudgeon, in 1853, advised it under the same conditions. In 1858 Field proposed tri-nitrine for certain neuroses, as epilepsy. Murray, in 1879, made the first trial of this medicament in angina pectoris, and finally, Mayo Robson, in 1880, advised it for albuminuria. In France it is only since the publication of Huchard's work, in 1880, that we seem to be definitely decided as to the therapeutic applications of

tri-nitrine, and this authority has shown us that its principal utility is in the treatment of angina pectoris, and here I must enter upon certain details.

It seems to-day demonstrated by the facts communicated by Potain, Huchard, and still more recently by Herard, that angina pectoris results from ischæmia of the myocardium, and there take place on the part of the heart, phenomena quite analogous to those which supervene in senile gangrene, and you easily understand why the pain of angina should be so intense, when you think of the cruel suffering which attends senile gangrene.

Every medicament which energizes the capillary circulation of the heart or of the parts of the nervous system which innervate it, is then applicable to these cases, and this it is that explains the relief which vaso-dilator medicaments give. Tri-nitrine is not only applicable to the treatment of angina pectoris, but also to all the affections of the aorta, constriction and insufficiency, in which we observe cerebral ischæmia, and in individuals suffering from such affections of the heart, where you observe vertigo, lipothymia, syncope, or other troubles dependent on this cerebral anæmia, you can still use with success the same medicine.

More than this, apart even from diseases of the heart, in intense chlorosis, in neuralgias from anæmic causes, in certain cases of hypochondriasis where the vaso-motor intestinal troubles, by their intensity, induce a veritable cerebral anæmia, you can still use to advantage tri-nitrine.

Such, gentlemen, are the principal modifications which have been introduced into the treatment of diseases of the heart, the last few years. They are, as you see, important and useful, and in my next lecture I shall undertake the consideration of a subject fully as important. I allude to the new methods of treating stomach diseases.

The Neuro-Mechanisms of the Alimentary Tract, and the Action of Drugs Upon Them.

By C. L. Dana, M. D.,* New York, N. Y.

IT will never do for the physician to forget that his patient is a human being with a mind that dominates the body, and much purturbs the calculations of therapeutics. But it will, nevertheless, help one to greater clearness in pathological views and greater certainty in practical methods, if he study the human body also as composed of a bundle of machines. For every particular function of the body, such as secretion, digestion, and circulation, is controlled and regulated by the nervous system, and that particular part of the nervous system regulating the special function constitutes for it a neural machine or neuro-mechanism. The total of these makes the human system.

When a drug is given to relieve some disturbed function, it is large odds that this drug acts with special power upon one or more of these neuro-mechanisms, while it does not affect the parenchyma of the diseased organs at all. Thus a person with an irritable heart is given digitalis, which is spoken of as a heart tonic. The drug relieves the bad symptoms, yet it hardly acts upon the heart tissue at all, but only upon its nervous check apparatus.

We give belladonna for constipation because it enfeebles the check fibers of the intestines, or we give physostigma because it stimulates the motor nerves.

One need not multiply illustrations to show how advantageous it must be to understand the intimate action of drugs upon these regulating nervous apparatuses. The only draw-back to such methods of study at present, is that our knowledge is as yet so incomplete. Nevertheless, some things are already established, and by mapping out the country already explored we shall more easily make further progress.

I have chosen to describe certain of the neuro-mechanisms of the alimentary tract. These are not the best known in all respects. For example, the cardiac and respiratory mechanisms are much better understood than that which regulates gastric digestion. Nevertheless, enough has been established to justify the practical consideration of the alimentary neuro mechanisms; and I prefer to take up this subject now, also because it has not heretofore been presented in the way which I propose for myself.

Naturally it will be necessary first to give a description of certain of the mechanisms in question.

The Neuro-Mechanisms of the Alimentary Tract.

The processes to which food is subjected in its passage through the alimentary tract, may be classed under two heads: I. The mechanical, and II. the chemical.

The mechanical include:
- Prehension.
- Mastication and insalivation.
- Deglutition.
- Movements of stomach.
- Movements of intestines.
- Defecation.

The chemical include:
- Diastatic action of saliva.
- Digestion by gastric ferments.
- Digestion by intestinal ferments.

These processes are under the control of the nervous system, each one having some particular nervous arrangement which constitutes its neuro-mechanism.

These mechanisms work harmoniously and more or less cöoperate together.

Of these processes I shall consider only those which include the movements and secretions of the stomach and intestines. The neuro-mechanisms governing salivation and deglutition are of much scientific interest, and have been thoroughly studied, but they have comparatively little direct bearing on practical therapeutics.

I take up, then, first, the neuro-mechanism of gastric digestion, which includes the movements of the stomach and the secretion of the gastric juice.

It will be necessary to begin at the beginning, and give some account of the nervous supply of the stomach.

The Nerves of the Stomach.—These consist of a plexus of nerve fibres and ganglion cells in the submucous tissue, corresponding to Meissner's plexus in the intestine. There are also fibres and cells distributed in the muscular coats of the stomach.

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The nerves going to the stomach are the pneumogastric and the gastric branches of the solar plexus.

The right pneumogastric goes to the posterior surface of the stomach.

The left pneumogastric goes to the anterior surface and the lesser and greater curvatures.

The pneumogastrics connect with the plexus above referred to.

Vaso-motor nerves accompany the blood-vessels. They are derived from the splanchnics, through the solar plexus. They are connected with centres in the medulla, and apparently with higher centres in the cerebrum, the connecting fibres passing through the cerebral peduncles and optic thalami.

THE NEURO-MECHANISMS OF GASTRIC DIGESTION.

I. That regulating secretion.

II. That regulating normal movements of the stomach.

III. That regulating regurgitant movements and vomiting.

We will consider these separately.

I. THE GASTRIC SECRETORY MECHANISM.

The nervous plexus in the muscular coat (Auerbach's) and that in the submucous tissue (Meissner's) contain independent reflex centres. So that local irritation causes local secretion.

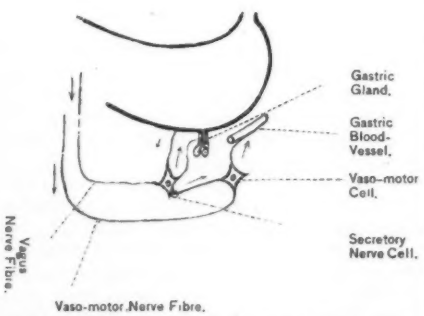
But these nerves and ganglia are also in relation with other parts of the nervous system, through the vagus and sympathetic, the exact course of the fibres not being known. Through these connections come impulses which excite or inhibit gastric secretion. These impulses are chiefly:

(*a*) Psychical, from the brain. Thus powerful emotion will stop secretion of the gastric juice, while the sight of food may increase it.

(*b*) From the gustatory nerves and centres. An excitation of the sense of taste excites a flow of gastric juice.

(*c*) From various sensory nerves. Painful irritations of sensory nerves affect gastric secretion. Thus severe pain or great fatigue will stop it entirely.

(*d*) The usual method of exciting the gastric secretion, however, is by the local stimulation, chemical and mechanical, of food upon the nerves in the stomach wall; and vaso-dilatation always accompanies this process.



SCHEME OF GASTRIC SECRETORY NEURO-MECHANISM.

The above represents in a very crude way the nervous action in ordinary secretion of gastric juice.

An irritation passing to the secretory nerve is reflected back to gland and to the blood-vessels. Impulses may come down the vagus nerve and affect this ac

A few other facts must be stated regarding this gastric secretory mechanism.

Thus nerve impulses sometimes pass up from the stomach to the higher nerve-centres exciting various conscious sensations and reflex movements. They may go to the vomiting centre in the medulla, stimulating it and exciting a feeling of nausea, or to the centre of the salivary secretion, generally stimulating it.

There are also nerves capable of arousing sensations of temperature, and of pain in the stomach. Normally, however, they do not act, and no sensations are excited in the stomach by contact of food or unirritating substances.

It is probable, as I have intimated, that gastric secretion is in the main a local reflex process, the centres being the ganglia forming Auerbach's plexus; for stimulation of any definite part of the stomach causes secretion in that part.

It is also a fact that gastric secretion is very dependent upon vaso-motor influence, the membrane becoming intensely reddened during this process.

But besides secreting gastric juice, the stomach during digestion performs active muscular movements. These are governed by the gastric motor neuro-mechanism.

II. THE GASTRIC MOTOR MECHANISM.

The efferent or motor nerves of the stomach run chiefly in the pneumogastric.

Some motor fibres, however, appear to run in the sympathetic *via* the splanchnics and the solar plexus.

There are also local automatic motor centres, for the stomach can be stimulated to motion after removal from the body, though this occurs to a less extent than with either the intestines or œsophagus.

These motor nerves act upon the muscular coats of the stomach, including the m. mucosa.

Motor impulses are excited normally in the stomach by the distension of the walls and local irritation. The presence of food causes movements of the stomach, and acid food seems to be especially stimulating. The action is chiefly a direct stimulation of the local nerve centres.

The stomach remains quiet and tonically contracted when it is empty. About a quarter of an hour after food is taken in, movements begin and continue for about five hours or more, until the meal is digested. The movement is a slow peristaltic one, the food being continuously carried towards the pylorus; what does not pass through being carried back to the fundus. The pylorus is closed most of the time, but at intervals opens and allows food to pass. The cardia is closed all the time except when food is swallowed. The movements of the stomach are lessened by cutting the vagi, and increased by stimulating the peripheral cut end. Section of the sympathetic fibres does not affect stomach movement. Psychical and powerful sensory impressions to affect it.

The stomach moves but very little, or not at all during sleep.

We can represent the gastric motor mechanism by a similar diagram to that for secretion, the two actions occurring almost simultaneously and being excited by nearly the same agents. Nevertheless one may be diseased while the other is not, and drugs which act upon one may scarcely affect the other.

Hence the importance of remembering that they are really distinct mechanisms.

The process of vomiting is in a measure conservative and physiological, and may properly be considered in connection with the other functions of the stomach. I shall describe here therefore

III. THE NEURO-MECHANISM OF VOMITING.

The act of vomiting is in the main a convulsive expiration. But the musculature of the stomach, œsophagus and pharynx plays an important part also. In vomiting there is a sudden contraction of the expiratory muscles and of the adductors of the larynx. The muscular coats of the stomach contract (though this is not absolutely necessary); the cardia is dilated; the œsophagus undergoes retro-peristaltic movements; and the upper pharyngeal muscles contract to close and protect the posterior nares. At the same time there is a profuse secretion from the bronchial, pharyngeal, salivary and gastric mucous glands.

The nerve-centres and fibres regulating this process include:

i. Vomiting centre in the medulla.
ii. Afferent nerves going to this centre.*
iii. Efferent nerves.

The efferent nerves include:

(*a*) A set connected with the muscles of the digestive tract.

(*b*) A set connected with the respiratory tract, *i. e.* the larynx and muscles of expiration.

(*c*) Secretory nerves.

I. The vomiting centre is situated in the medulla, near the respiratory centre, with which it is in close physiological as well as anatomical relation.

II. The afferent nerves going to this centre come from various sources. Any of the following sets of fibres if irritated may excite vomiting:

(*a*) Nerves from the stomach, which are excito-reflex or "vomiting fibres."
(*b*) Nerves from the pharynx.
(*c*) " " " intestines.
(*d*) " " " pregnant uterus.
(*e*) " " " urinary apparatus.
(*f*) " " " higher brain centres.

Only the nerves from the stomach are exclusively "vomiting nerves." They are sensory, or rather excito-reflex nerves, which are in peculiar relation to the vomiting centre. When irritated powerfully or by certain agents they affect the vomiting centre. Thus some irritating agents in the stomach excite nausea while others do not.

III. The efferent nerves:

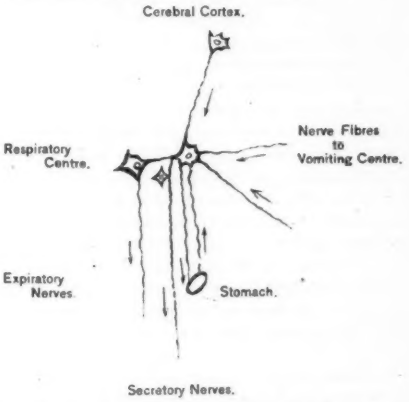
(*a*) The motor nerves to the stomach and œsophagus run chiefly in the vagi. They close the pylorus tightly, and contract the stomach walls. In vomiting the circular fibres of the cardia are dilated, the longitudinal are contracted and the orifice opens. Then retroperistalsis takes place, while the vagus and the seventh cranial nerve operate upon the muscles which close the posterior nares.

(*b*) The nerves to the muscles of expiration are chiefly the phrenics, to the diaphragm, the intercostal nerves and those supplying the abdominal muscles. The inferior laryngeal nerve closes the glottis.

(*c*) The secretory nerves consist of those exciting salivary secretion (chorda tympani and auriculo-temporal) and the gastric and bronchial secretion (vagi).

As would be inferred from the above descriptions, vomiting is excited ordinarily by irritation of the gastric or faucial afferent fibres. Psychical impressions, gustatory sensations, irritations of the intestines, uterus or direct irritation of the vomiting centre may also excite the act. Some retro-peristaltic movements of the duodenum occur in irritant vomiting, and bile may thus be carried into the stomach. At the same time with the excitation of the vomiting centre, there is some excitation of the neighboring respiratory centre and a tendency to apnœa or relief of dyspnœa results. Hence the value of nauseant and emetic drugs in cough and dyspnœa.

Vomiting is fundamentally a reflex act, but is modified and helped by voluntary actions.



Scheme showing the neuro-mechanism of vomiting. Excitations may pass by any of the afferent nerve channels to the vomiting centre. These impulses are reflected to respiratory and secretory centres, etc.

REGURGITATION.

The mechanism in regurgitation is essentially the same as that of vomiting, but it is a purely reflex act of simpler type, involving fewer muscles. The stomach walls are more prominent factors in producing the movement.

Regurgitation is sometimes only an œsophageal retro-peristalsis, which carries food, or gases lodged in the lower part of the œsophagus up into the mouth.

II. THE NEURO-MECHANISMS OF THE INTESTINE.

THE NERVES OF THE INTESTINE.—These consist of,

Auerbach's plexus between the muscular coats;
Meissner's plexus in the submucous tissue;

Branches of the pneumogastric and splanchnics are distributed in the muscular coat; being connected with the plexuses referred to.

The above nerves are arranged to form the three following mechanisms:

i. The trophic—not known.
ii. The secretory—not definitely known.
iii. The motor.

* I have always used the terms *afferent* and *efferent* to indicate the nerves bearing respectively ingoing and outgoing impulses. The afferent nerves include not only the sensory nerves, but also a class known as excito-reflex. The efferent include not only the motor nerves, but also the inhibitory, secretory and trophic.

III. THE INTESTINAL MOTOR MECHANISM.

This produces, normally, slow muscular contractions of the circular and longitudinal fibres of the intestine. The movements normally always pass from above downward.

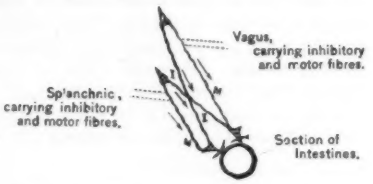
The motor mechanism comprises:

(*a*) Automatic motor ganglia placed in the substance of the intestinal wall.

(*b*) The sphanchnic nerve fibers.

(*c*) The pneumogastric nerve fibres.

According to most recent investigations the pneumogastric sends a set of motor fibres to the circular muscular coat of the intestines, and inhibitory fibres to the longitudinal muscular coat.



Scheme showing the relation of motor nerves to the intestines. It should not be forgotten that the main influence of the splanchnic is inhibitory.

On the other hand the splanchnics send inhibitory fibres to the circular coat, and motor fibres to the longitudinal coat. As the circular coat is the main factor in pushing on the intestinal contents, the practical facts are still that the vagus is a motor, and the splanchnics an inhibitory nerve, to the intestines. A centre called the motor centre for the intestines is said to exist in the medulla.

The splanchnics carry not only motor and inhibitory nerves, but sensory and vaso-motor fibres. It is through the splanchnics, therefore, that we feel abdominal pains from intestinal disease.

Intestinal movement is essentially a local process, the splanchnics and vagi simply acting as regulators, just as the sympathetic and vagi regulate the automatic movements of the heart.

Thus a section of the intestine removed from all outside nervous connections, will exhibit movements on irritation, and under ordinary circumstances the irritating action of food upon the internal coats of the intestine excites the local motor ganglia and causes peristalsis. The motor neuro-mechanism of the intestine possesses an instructive analogy to that of the lungs.

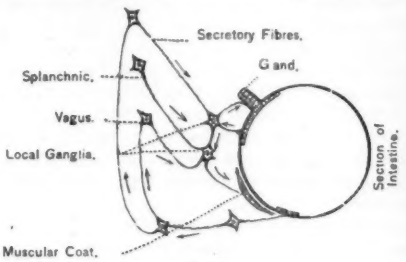
When the blood is very rich in oxygen and there are no irritating substances in the intestine the automatic motor centres in the walls are quiet, the intestines motionless. The condition is analogous to "apnœa" and is called *aperistalsis* (Landois). This condition occurs in fœtal life when the blood is rich in oxygen, and also to a less extent during sleep.

When the blood with its usual normal gaseous constituents flows through the intestine, the centres are excited to slow, quiet movement, *euperistalsis*, analogous to normal breathing or "eupnœa."

When the centres are over irritated, (*a*) mechanically (*b*) by dyspnœic blood, anæmia, (*c*) by psychical disturbances (emotions) which act upon the vaso-motor centres causing muscular constriction in the intestines; (*d*) by various direct excitants, we have *dysperistalsis*, or cramps, analogous to "dyspnœa." When the centres are constantly stimulated for some time, as in vascular stasis, lessened blood supply, acute inflammations, we have intestinal paresis.

While not much is definitely known of the secretory mechanism of the intestines, it is no doubt very similar to that of the stomach. Local irritation by food, drugs or irritants, excites the local ganglia in the intestinal wall, which at once send impulses to the glands and muscular coat. More powerful irritations send impulses up to the nerve centres which are then reflected back to the gland and muscle. Certain regulating impulses are constantly being sent down from the nerve-centres to the intestinal wall.

This is represented in the accompanying diagram:



Scheme showing the intestinal neuro-mechanism of motion and secretion.

We now turn to the practical side of our subject, viz., the action of drugs upon the complex machinery above described. It will best facilitate the understanding of the subject if I group the various drugs in their proper relation with the parts on which they act.

THE GASTRIC MOTOR MECHANISMS.

I. That for the normal stomach movements.

The stimulants of stomach movement are: Food, drink.

Mild irritants of all kinds.

Electricity; arsenic in small doses.

Strychnia? Belladonna?

Acids, especially the dilute mineral acids.

The depressants of stomach movement are: Opium and the narcotics.

All the motor depressants, e. g.: bromides, lead salts, potassium salts in large doses.

We know of no drug which certainly stimulates specifically normal gastric peristalsis. It is only by analogy that we assume belladonna and strychnia to have such action.

On the other hand the motor depressants, such as the bromides, and those drugs which lessen muscular irritability, such as the lead salts and the potassium salts in large and long-continued doses, most probably directly lessen gastric muscular activity:

II. THE VOMITING NEURO-MECHANISM.

The excitants of this mechanism include all very irritant substances.

There are, however, special excitants which act mainly on the reflex-vomiting fibres. These are:

1. Mustard.
2. Yellow sulphide of mercury.
3. Zinc sulphate, and to a less extent other zinc salts.
4. Copper salts. Ipecac and tartar emetic act in part in this way.
5. Alum.

No drugs have the power of causing vomiting except by acting either on the vomiting centre or the nerves of the gastric mucous membrane. Mechanical irritants, however, applied to the fauces and pulmonary mucous membrane may excite emesis reflexly.

The excitants of the vomiting centre, or of both vomiting centre and the gastric "vomiting fibres," are:

Apomorphine.
Ipecac (which also acts in part locally).
Veratrin.
Tartar emetic (also acting in small part locally).

The depressants of the vomiting mechanism.—These are the drugs which depress reflex action in general, viz., the bromides, opium, etc.

Also drugs that act sedatively upon the vomiting fibres in particular, viz.:

All so-called anti-emetics, such as:
Cerium oxalate.
Ipecac in small doses.
Alcohol.
Bismuth.
Hydrocyanic acid, carbolic acid, Labarraque's sol.
Carbonic acid water, cold.

Counter-irritants and all agencies which draw off nervous force from the over-irritable vomiting reflex arc act as anti-emetics.

III. THE GASTRIC SECRETORY NEURO-MECHANISM.

The excitants of this mechanism:

All slight local irritants of the gastric mucous membrane increase the flow of gastric juice; but it is claimed that certain drugs specifically excite it. Such drugs are:

The bitters and aromatics.
Dilute alcohol.
Alkalies.
Sugar.
Arsenic (?).
Pilocarpin.
Acids.

The *depressants* of gastric secretion are:

Opium and the narcotics.
Excessive amounts of alcohol.

It is needless to say that I have enumerated only the drugs which act more or less directly on the stomach functions and mechanisms. Many agents may be made to affect these indirectly by improving or impairing the general health, or by powerfully acting on other parts of the body.

ACTION OF DRUGS UPON THE INTESTINAL NEURO-MECHANISMS.

Aside from the indications of pain and inflammation, drugs are given to increase peristalsis and intestinal secretion, or for the opposite effect.

Experimental evidence shows that intestinal secretion cannot be affected nearly so readily by ordinary dosage as intestinal peristalsis, and that it is increased peristalsis which is the chief cause of purgative stools.

The drugs which act upon *the intestinal motor mechanisms* are, therefore, of most practical importance. They are:

The excitants.—Some of these drugs which stimulate intestinal peristalsis act directly upon the contained motor ganglia.

Such are:

Cocaine—Its action is not very powerful.
Arsenic—In small doses.
Nicotine—This acts also upon an "intestinal notor center" in the medulla, according to Rossbach and Nothnagel.
Physostigma rheeum (?).
Muscarin.
Strychnine.

Other drugs act by paralyzing the inhibitory fibres of the splanchnics sent to the circular musculature.

Such are:

Atropia.
Curare.
Conium (?).

Other drugs act by simply medicinally irritating the muscular coats.

Most of the cathartic salts act in this way. Thus the potassium and sodium salts of low diffusive power (carbonates, sulphates, phosphates), do not diffuse into the intestinal vessels rapidly; they, thererore, accumulate in the intestines and by irritating it cause catharsis. (Wood does not take this view). The vegetable cathartics act by stimulating secretion and motion, and by increasing the flow of bile. Aloes stimulates especially peristalsis of the lower bowel. The drastics, jalap, elaterium, podophyllin, scammony, gamboge and colocynth, increase peristalsis and cause serous secretion, but do not greatly increase true glandular intestinal secretion.

The depressants of intestinal motion.—Some drugs act by stimulating the inhibitory fibres of the splanchnics, andthus bring the gut to rest.

Such a drug is opium and its alkaloids. This owes part of its constipating action, however, to its blunting the sensibility of the canal.

Many drugs act directly upon the muscular coats and ganglia, weakening their irritability. Thus the potassium salts when given in large amounts and long continued, act in this way and cause digestive disturbances.

The lead salts produce constipation by a similar action. Also cotoin (?)

Tannin and drugs containing it, act in part by lessening secretion, but mainly by dulling the sensibility of the mucous surface, thus lessening its reflex irritability.

It seems probable that some drugs produce catharsis by reflexly stimulating the intestinal branches of the vagus. Thus it is said (Wood) that after cutting the vagus, croton oil does not act.

Some cathartics, as well as intestinal depressants may act not only locally but also after absorption into the blood. Such drugs are aloes and castor oil.

I. THE NEURO-MECHANISM OF SECRETION.

The special excitants of intestinal secretion, aside from food and irritant bodies of all kinds, are:

1. Pilocarpine.
2. Those drugs which increase the flow of bile, indirectly increasing that of the intestinal glands.
3. Those drugs which produce increased peristalsis, excite increased secretion at the same time, but this secretion is mainly a watery transudation from the intestinal capillaries.

The depressants of intestinal secretion are the various vegetable and mineral astringents.

Opium.

Drugs which produce a continual irritation of the intestinal mucous membrane end in lessening secretion. Large amounts of alcohol, aperient salts, specific cathartics act finally to produce lessened secretion.

Menthol Pencils.

By A. B. Lyons, M. D.,* Detroit, Mich.

ALTHOUGH but recently introduced into this country the crayons or pencils of menthol, that have proved in Europe so efficient a remedy for headache and neuralgias, have become extremely popular, and are now presented by various manufacturing firms in a great variety of forms, and, as it appears, at widely varying prices. While it is true that sharp competition in trade frequently depresses prices temporarily to a point where the margin of profit becomes a vanishing quantity, it can hardly happen that an article which is offered at a figure apparently considerably below cost, can be actually what it purports to be. I have had the curiosity therefore, to examine a few of the menthol pencils which, under one name or another, are at present bidding for popularity, especially those setting forth as the argument likely to have the greatest weight with dealers, their cheapness as compared with similar articles already on the market.

The results of this examination have proved so interesting that I have thought it worth the while to place them on record. Some specimens were examined which were found unexceptional in quality, which still might be criticised on the ground that they offered the purchaser so much case with so little menthol. In one instance nearly half the menthol was wasted, for practical purposes, in filling up the socket of the holder, as illustrated in the accompanying wood cut (fig. 1); the pencil weighed twenty-five grains, but the portion available for use weighed barely 15 grains.

Fig. 1.

Of the samples selected as worthy of special note, No. I may be accepted as a representative specimen of an honestly made article, and may serve as a foil to those that follow.

Sample No. I. Case turned, of wood, in the form of an acorn, the cover fitted by a screw thread cut in the wood. Weight of menthol pencil or cone, 30 grains, at least 25 gr. of which are available for use. The pencil has a highly crystalline texture, and produces no greasy sensation when applied to the skin. Fusing point of the material of the pencil 109° F. (42.75° C.). Completely soluble in alcohol. Volatilizes completely in a short time at a water-bath heat. Odor of pure menthol.

Sample No. II. Case ellipsoid in form, one-half made of a resinous composition made to imitate marble, the other (cover) made of pewter or some similar alloy. A portion scraped from the surface of the pencil proved to be pure menthol. When the pencil was cut off, however, at the base, it was found that it contained a core of paraffin wax, with which substance the deep socket of the case was filled. There would obviously be no use in filling this socket with menthol, and the paraffin commends itself as being at once light and cheap. The paraffin, however, projects in a form similar to that of the tip of a wax candle, six or eight millimetres above the socket (fig. 2), so that the pencil which from its apparent size should weigh as much as twenty grains, weighed in fact less than twelve. What there is of the menthol, however, is of good quality.

Fig. 2.

Sample III. The case is of wood, but cheaply made, having the form of an acorn, but made more slender than No. I, of which it is evidently an imitation. The pencil is very small and slender, weighing only fifteen grains. The color is pure white, without the crystalline appearance characteristic of menthol, but rather resembling polished marble. To the touch it gives a distinctly greasy impression. It is homogeneous in character. A portion taken from the surface refuses to melt until the temperature is raised to nearly 130° Fahr (54.8° C.). It is only partially soluble in strong alcohol. By exposure a short time to a water-bath heat it was reduced in weight thirty per cent., and had then no longer any odor of menthol. The residue in fact was simply paraffin wax. The pencil therefore contains not more than 4½ grains of menthol, and that largely diluted with paraffin. These crayons surely should be sold cheap.

Sample IV.—Case turned of wood in the form of an elongated truncated cone. Weight of the contained pencil about twenty-one grains. The pencil is similar in appearance to that just described, and identical in composition with that, except that the

* Analytical Department, Laboratory Parke, Davis & Co.

manufacturers have been more lavish with their paraffin, of which they have used the extravagant proportion of eighty per cent. The "pencil," although not of such dainty proportions as in No. III, contains even less menthol, the quantity not exceeding four and one-fourth grains.

Sample V.—This proved the most interesting of them all. The material of the box is horn, and the label claims nothing in regard to the composition of the pencil, which is represented to be simply the Chinese headache cure.

The pencil had a weight of about twenty grains, and was of a pure snowy white color, having in a high degree the crystalline appearance so characteristic of pure menthol. The odor, however, was more rank than that of the genuine Japanese menthol, reminding one rather of common oil of peppermint. This would indicate that the menthol was that procured from the oil of mentha piperita Lin. and that it was probably of American manufacture. The imported menthol obtained from mentha arvensis Lin. var. piperascens, has an odor similar to that of the oil of peppermint, but having a quality which can only be described as purity, in the sense in which that word is used of colors and musical tones, and this purity of odor seems to point directly to purity in the chemical sense in the substance possessing it.

Menthol prepared from oil of peppermint has been found to have a low fusing point. I was surprised therefore, to find that a portion of this pencil when exposed to a gradually increasing temperature showed no sign of melting at 110° F. (43.3° C.), that even at 113° F. (45° C.) there was no change except that the surface became glistening as though moist, but complete fusion did not take place even when the temperature was raised to the boiling point of water.

Alcohol did not readily dissolve the whole of this material, although it rapidly disintegrated it, a crystalline substance remaining diffused through the spirit, in which it slowly dissolved.

A portion of the pencil was exposed for a few minutes to a full water-bath heat; the odor of menthol soon disappeared completely, but there remained a considerable crystalline residue, which proved to be readily soluable in hot water, yielding a bitter solution neutral in reaction. The solution gave no precipitate with Mayer's reagent. A little of the powder placed on platinum foil and heated, first melted, then began to give off fumes of a peculiar aromatic odor, then darkened, took fire, and was completely consumed. The behavior of the substance was precisely that of salicin, and further tests demonstrated that it was nothing else. The proportion of this substance present in the pencil proved to be about thirty per cent. There was, therefore, not more than fourteen grains of menthol in the pencil.

The selection of salicin as an adulterant for menthol shows genius. The crystalline appearance of the pencil would induce one to "pass" it at a glance as pure menthol, and few persons would think of looking for a substitute so unlike menthol in testing the pencils. An attempt, however, to determine the fusing point of the material, or its solubility in alcohol at once reveals the presence of some adulterant, and the fact of adulteration, rather than the precise nature of the adulterant is what the experimenter generally is interested to know.

The following cut shows the comparative quantity of available menthol contained in the various pencils examined. The shaded portion represents available menthol, the outline either adulteration or menthol practically wasted from its location in the socket of the case:

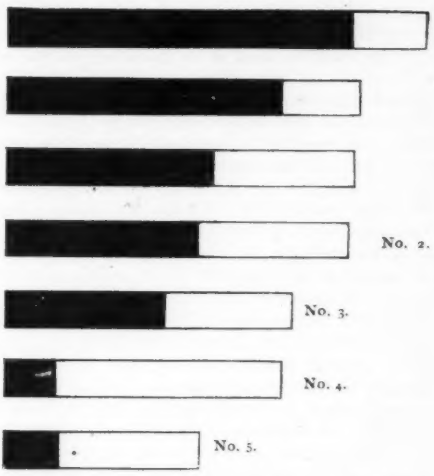


FIG. 3. Comparative amount of available Menthol in various pencils examined.

The upper one represents sample No. I., described above; the other samples described are designated in the cut by their respective numbers. Those without numbers represent pencils of pure menthol, which suffer, however, in comparison with No. I. on account of the comparatively small quantity of material employed, or available for use.

It is a simple matter in most cases to ascertain whether or not a menthol pencil is genuine. If a little of the material is scraped from the surface and placed on a watch crystal or slip of glass which has been dipped previously in water having a temperature of 115° F. (46° C.), it should melt at once. The exact melting point can be determined with a little trouble, by placing the material in a small glass tube closed at the lower end, and immersing this, together with the bulb of an accurate thermometer in water, the temperature of which is then gradually raised until the material shows signs of fusion. Pure menthol will melt at a temperature between 107° F. (41.7° C.) and 110° F. (43.3° C.) The most frequent adulterant is paraffin wax, which melts at a much higher temperature, but many mixtures will be found to melt at a lower temperature, and it is, of course, possible to produce one which will coincide precisely in its melting point with the pure menthol.

The second experiment, which will generally be conclusive, consists in heating the watch crystal containing the menthol to about 212° F. (100° C.) until the odor of menthol entirely disappears. If the menthol is pure, there will of course be no residue. All the adulterants that have hitherto been employed are non-volatile substances, and will therefore remain on the watch crystal, when their identity will generally be at once manifest.

Salicin will of course be easily recognized by its solubility in water, its bitterness, and the red color it assumes when touched with strong sulphuric acid.

The solubility of the "menthol" in alcohol is an additional test of some value. Pure menthol dis-

solves rapidly and completely; many of the substances employed as adulterants are either insoluble or dissolve slowly and with difficulty.

Turpentine in Diphtheria.

By Conrad George, M. D., Ann Arbor, Mich.

IF any detail in my paper on Turpentine in Diphtheria has been minutely described, it is certainly that of the dose and its repetition. Every dose given in the six cases has been mentioned. I gave but one dose in 24 or 48 hours, according to the action of the oil on the bladder, and I now give but one large dose —a teaspoonfull or two for a child of six to eight years—in 48 hours, for the effects of such a dose continue for that length of time or even a longer period. A second dose, although large, is too apt to cause very troublesome irritation of the bladder. The large dose acts invariably on the bowels, producing copious offensive stools, and it also acts strongly on the kidneys; urine is passed in large quantities every few hours, unaccompanied by vesical tenesmus. A small dose does not act on the bowels, but causes an intense activity of the kidneys, accompanied by very painful vesical tenesmus, and even free hemorrhage after micturition. The urine is loaded with albumen and blood, a condition which continues for a week or longer. It is passed frequently in small quantities.

That turpentine is, *per se*, a factor in the causation of albuminuria was lately demonstrated in my practice. To a child of four years 20 drops had been given by the mother for pin-worms. The child had been constipated and remained for three days in this condition. After taking the oil intense irritation of the kidneys and bladder ensued and continued for upwards of two weeks. The urine during all this time was very bloody and heavily loaded with albumen. The oil was given at the same time, for the same trouble, to three other children of the same family, aged respectively 1, 5, and 6½ years, in large doses, proportionate to the ages. In these cases it acted strongly on the bowels. Urine was passed for two days in large quantities without tenesmus, and free from blood; it it was not examined for albumen. The entire action of the oil had passed off in the three cases before I was called to attend the troublesome case. Treatment consisted of free catharsis, warm applications to bladder, anodynes and stigmata maidis. Probably the most soothing results of all were obtained with the latter drug. This remedy was used when I began to consider the case as becoming chronic, that is, if that term is applicable to a case cured in two weeks. Under its use the urine was gradually passed in larger quantities without straining, and the blood and albumen began gradually to disappear.

I desire to place another case on record, illustrative of the powerful action of the oil of turpentine in membranous throat affections, and of the beautiful action of stigmata maidis in renal disease. On June 30th I was called to Willie Reichenecker, æt. 7. He inherited a consumptive diathesis, his father, whom I had attended for this disease for six years, having died on July 6, 1884. The boy had been sick for four days. During the first two days he had high fever, which had entirely subsided when I saw him. His countenance was of pale, haggard, appearance, and all strength seemed to have left him. On the left side of his neck there was a swelling the size of the fist, below the angle and ramus of jaw and the anterior border of sterno-cleido mastoid. He complained of severe pain in the left ear. On the right side was also a swelling of small size. There was much pain in the throat, but not so much as that in left ear. The mouth was opened with difficulty, and all that could be seen on depression of the tongue, was one large grayish-white lump, extending from the hard palate downwards. At the upper margin, this lump, which looked more like the slough of a large carbuncle than a membrane, was at least of one-fourth inch in thickness. Nothing could be seen of uvula or tonsils, the lump extending further down than the tongue could be depressed. The patient could swallow a little fluid, with great difficulty. I gave him one overflowing teaspoonful of turpentine.

July 1st.—The bowels had moved twice. The discharges were copious, and of intensely foul odor. Urine was passed in large quantities, of violet color, with no pain or tenderness in bladder. No oil and no other medicines were given on this day.

July 2.—The surface of lump seems somewhat moister. No perceptible change in its size observable. The second dose of turpentine was given on evening of this day.

July 3.—Quite perceptible improvement. The swelling on the neck is smaller, and the pain in the ear is subsiding. On inspection the outlines of uvula and tonsils are now noticeable. The lump is much thinner at its upper margin. The action of the oil was strong, both on bowels and kidneys. Bladder free from pain. No medication for this day.

July 4.—Resorption of the lump progressing rapidly. It is now much thinner, and on the soft palate it begins to disappear. Action of turpentine still continues on kidneys; urine passed without pain or spasms, in large quantities, of characteristic violet odor. No medicine given on this day.

July 5.—The swelling on right side has disappeared, and that of the left is very small. The soft palate is entirely free on right side, and only covered with a thin coat on the left. The uvula and tonsils have now the usual appearance of heavy membranous coating. The third and last dose of oil, one teaspoonful, was given on evening of this day.

On July 8 the membrane had disappeared and the patient felt well and cheerful. He had not once suffered from disturbance of the bladder. The urine was always passed in large quantities and with absence of pain. The large, thick, membranous slough had been completely removed, for it could not be detected in the sputa, although I tried hard to obtain some for examination. I now prescribed a tonic and dismissed the case.

On July 21 I was again summoned. The boy was now suffering from renal dropsy. The legs were greatly swollen and the abdomen enormously distended; breathing was very difficult in the upright position. This condition had gradually taken place for about one week. The urine was reduced to half a pint in 24 hours. What I examined first was of sp. gr. 1032, acid, free from blood, but loaded with casts, albumen and urates. I moved the bowels with pulv

jalap, co., and, contrary to rule, I prescribed stigmata maidis in teaspoonful doses every six hours. Under this treatment the urine was gradually passed in larger quantities, and on the 25th the swelling of abdomen and limbs had subsided, and the urine was almost free from casts and albumen. Patient was again feeling good but weak, and I prescribed iron and bark and an occasional dose of stigmata maidis. Left word to be at once notified of any unfavorable change.

August 18, on passing the house I called and found my patient moribund. Loud coarse bronchial râles were heard all over the lungs, and the heart's action was very feeble. Mind clear. No dropsical swelling was anywhere observed, and the mother told me that he had always passed urine in goodly quantities. He had not suffered from cough, but his lungs had gradually filled up and hence it had been considered useless to send for a physician. He died August 19, 1884.

As this communication was only intended for correcting the editor's impression as to the incompleteness of my paper in regard to the repetition of the dose of turpentine in diphtheria, its object is, I trust, accomplished.

An Obstinate Case of Sycosis Treated with Oleate of Copper.

By S. Armer, M. D.,* Columbus, Indiana.

IT has been my misfortune to have been my own patient, having for upwards of twenty-five years been afflicted with the most inveterate case of sycosis which I ever saw. Prior to its onset I rejoiced in the possession of a luxuriant growth of beard, which in due time was completely sacrificed to the disease, my suffering from which made life literally a burden. It is needless to affirm that during these years I resorted to all the means recommended by reputable authorities for the destruction of the parasite, and freely partook of "alteratives" including arsenic and mercury, but all to no purpose. A short time since I was waited upon by an intelligent representative of Parke, Davis & Co., who presented me with a sample of the oleate of copper, as prepared by that firm. On his advice I resolved to give it a trial, although I must admit such therapeutic properties as it might possess, was not in my case enhanced by any considerable amount of that faith which is such a valuable adjunct to the action of a drug. The employment of the sample, however, was followed by effects which warranted me in ordering a fresh supply, and accordingly I secured another ounce. My manner of applying it was in the form of a 20-per-cent ointment, which I kept in contact for days together, without removal. The eruption speedily disappeared, and soon the only trace of the former distressing condition was the appearance of a small papule at intervals of two or three days. This was promptly arrested by the application to it of a little of the ointment. The result has certainly been the most remarkable of which I have any knowledge, either from my own observation or from the literature on the subject: a case of sycosis of twenty-five years' standing cured in less than four weeks!

* U. S. Examining Surgeon.

Witch Hazel as a Hæmostatic.

By W. O. Bridges, M. D., Omaha, Neb.

THE editorial reference in the August number of the Gazette to Witch Hazel in Menorrhagia, attracted my attention on account of the seemingly beneficial results which have followed the use of the drug in various forms of hemorrhage, in my recent practice. I was prompted to its use by the reports of Ringer, who recommended it in all varieties of passive hemorrhage, his favorable results having been obtained with it particularly in hæmaturia and bleeding piles. Within the past few years I have prescribed it for bleeding piles, menorrhagia, and continued bloody oozing from the uterus four weeks after confinement In each one of these cases there was no further trouble after twenty-four hours. The doses which I gave were somewhat smaller than those referred to in your article. I followed Ringer's plan of giving two drops of the fld. extract hourly. I was skeptical in regard to its use at first, but inasmuch as no other remedies were prescribed at the same time in the cases referred to, nor even rest enjoined, I was inclined to give witch hazel the credit. Other uses for which Ringer recommends its trial are pulmonary hemorrhages, hematemesis, and varicocele.

Translations.

[All articles signed "T" are translated for The Therapeutic Gazette by C. W. Tangeman, M. D., Cincinnati.]

Resorcin in Diseases of the Intestine.

Resorcin, like nearly all the new remedies that are introduced, is highly praised by some, while others absolutely fail to find any good qualities in it. It has been employed in a good many diseases, and especially in diseases of the mucous membrane. Dr. Justus Andeer has largely contributed to the study of resorcin. The following is a brief report of his observations in diseases of the intestinal mucous membrane: "I was called in consultation to see a widow, 59 years old, who had had medical advice from a number of physicians, at home and at Paris. From the symptoms—frequent vomiting of mucus just after meals, intolerance of food and drink, and the prompt rejection of the same immediately after ingestion—I made the diagnosis of cancer of the pyloric extremity of the stomach. The liver was somewhat atrophied, and from the symptoms the growth evidently made some pressure on the bile duct. The frequency of the attacks of colic and vomiting seemed to confirm my diagnosis, and I concluded to give the systematic administration of resorcin a trial. The stomach was washed out with a solution of resorcin regular, which not only removed the yellow slimy mass, but at once lessened the excruciating pain from which the patient was suffering. Lungs and heart were perfectly healthy, and the intervals between the attacks of pain became longer. The patient had become very much emaciated, and was nourished per rectum; the food was well absorbed, and an increase in weight was recorded. Formerly she was quite restless, and slept but little, while under treatment she slept without interruption from six to eight hours. During a relapse Prof.

Pohain, of Paris, was called in consultation, and verified my diagnosis, and recommended resorcin in increased doses, which acted very nicely for a time, when the patient again got worse, and Billroth was called to operate, but found the woman moribund. In the course of half an hour after his arrival she died. He had concurred with the diagnosis of Andeer and Potain. On the following day Billroth made a post mortem section, and found dilatation of the stomach, and a circumscribed scar of an ulcer of the stomach, with a formation of a large number of gall stones in the gall bladder, which caused acute cirrhosis of the liver. The death of the woman was, therefore, unavoidable, since the duct from the gall bladder had been completely closed, causing decomposition of the retained bile and consequent blood poisoning. This case is not only interesting on account of the mistaken diagnosis and its severity, but also on account of the fact that pyloric dilatation may be caused by reflex paralysis of the bowels and abdominal organs; and lastly, that even in this class of cases, resorcin seems to be quite valuable. Aside from the cases reported by Soldtmann, Todenhöfer, Bouchut, Cohn, and the most conscientious of all resorcin investigators, Guiseppe Cattani, of microparasitic disease of the stomach, and treated with resorcin, I can also add a few very interesting cases. During the summer it happened that two families, consisting of sixteen members, consumed the flesh of a young beef that had died and was buried. The following is a brief account of the two 'house epidemics' of acute meat-poisoning as it began and its course: After the two families had ingested the meat, the one in a roasted and the other in a cooked form, they all took sick according to the amount of the infectious mass consumed. The symptoms were all alike, and differed but little in degree. The first symptoms were a marked depression, nausea but no vomiting, distension of the abdomen, development of gases. On the second day colic set in, with diarrhœa and sleeplessness. On the third day, trembling of the whole body. On the fourth day all were confined to their beds, which they could not leave. At this time I saw the two families, and made a diagnosis of septic gastro-enteritis. They were all very much prostrated, as in typhus fever. Dizziness was complained of in some cases. There was sensitiveness to light, paralysis of accommodation, and in one or two instances paralysis of the ocular muscles, causing squint. All the symptoms of gastro-enteritis were present, and in addition the parents suffered from unconsciousness and attacks of fainting during the absence of pain. The severer symptoms became more dangerous daily, and some of the patients already showed signs of collapse. Cold, clammy sweat covered the bodies of the torpid patients, the head was hot, the pupils dilated, and the eyes had a staring, vacant look. The heart's action was very weak, and the respiration was moaning. For the sake of comparison, one of the families was treated with resorcin, while the other was treated on general principles. Of the first family some of the members received ½ liter of a 3% solution of resorcin four times a day, while others were given a 5% solution. This insured these patients a good night's rest, and they left the bed on the following morning. Their recovery was quite evident. At my last visit the patients were happy, and stated that they were improving rapidly. In the second family, excluded from the resorcin treatment, recovery was more tedious, requiring two to three weeks, and then some of them remained quite weak for weeks. In the first family resorcin showed itself as a good anti-emetic, and while the second family recovered without the loss of life, yet the difference was so marked in favor of the resorcin that it is by far the best remedy that I have ever employed. My physiological experiments with this drug on the bowels, from the pylorus to the rectum, have shown that the mucous membrane, like the mucous membrane of the throat and vagina possesses marked properties of absorption for this drug. In animals resorcinism can easily be set up by injecting a 2% or 4% solution. In septic infection, infiltration of the assimilating intestinal walls, as it is found in different forms of catarrh, and ulceration, dysentery, typhus, cholera, septic enteritis, etc., the proportional resorptive properties are somewhat diminished as in the above cases, in which the tolerance for resorcin was quite marked.—*St. Petersburger Med. Wochenschrift.* T.

Antipyrin.

Dr. Know, of Erlangen, was the first to prepare this alkaloid, and from its antipyretic action it was called antipyrin. It is quite efficient. Paul Guttmann has made a large number of observations, and the following is a short resumé of his results: Antipyrin was employed in 27 cases of febrile diseases, as follows: 6 cases of fibrinous pneumonia, one complicated with pericarditis; 6 cases of abdominal typhus; and in two cases each of scarlatina febrilis recurrens, and facial erysipelas; in one case each of variola, morbilli, exudative pleuritis, erysipelas cruris, brachial phlegmon; and in four cases of phthisis pulmonalis with high fever. Experiments have shown that antipyrin is best administered in two-gramme doses, repeated two or three times a day, as may be indicated. In some instances it seems to give the better results by giving the above dose once every hour, until two or three doses are given. When it is given in a watery solution, it had best be taken with some agent to correct the taste, or it may be put into capsules. Its action lasts about five hours. The process is one of gradual and continuous reduction of temperature; not unfrequently after the first dose, in the course of one hour, there is a difference of ½ degree noticeable. During the second and third hours the reduction is quite marked, especially when three doses are given, amounting to 2 degrees Celsius. The duration of time from the maximum of depression to maximum of elevation which followed later, was variable, ranging from 6 to 10 and 12 hours. The comparatively long duration of action is due to the long time that is required for its action to fade away, and then the temperature only gradually increases again. A large dose of 4 grammes may be given at once, or small doses often repeated can be given; but the small doses, even if often repeated, do not insure the lasting results that are obtained from larger doses, while the extremely large doses are not safe in all cases. The depression of temperature is accompanied by a diminution of the pulse frequence; where the temperature diminishes rapidly, there is often a profuse perspiration following. Unpleasant secondary effects are not noticeable during a course of antipyrin; only in an instance or two vomiting was recorded. In patients

where 4 grammes were given in one dose, or 9½ gr. during the day, no unpleasant symptoms were complained of; even children tolerated ½ and 1 gramme doses very readily and safely. During the changes of temperature there is never any complaint made of chilliness, as there is under a course of kairine, which is so unpleasant to many of the patients that they absolutely refuse to take it; and besides, its antifebrile action is of shorter duration. There seems to be a great analogy between the action of antipyrin and quinine; the depression of the temperature is gradual until it has reached its lowest point, then the rise is also gradual again. The dose of antipyrin must be double that of quinine to produce the same result. The price, therefore, must be considerably less in order to make its use universal; it is quoted at 120 mark per kilogram, while quinine is 200 and often 240 mark per kilogram.—*Wiener Med. Blätter.* T.

The Therapeutic Application of Juniper.

The report of the use of iodoform in valvular diseases of the heart dependent on functional disturbances, causes the author to give his views on the therapeutical use of the juniper preparations. He states that in organic diseases of the heart, especially in those patients suffering from gout, by the deposition of urates in the heart-muscles and valves, with the functional disturbances that it usually causes can be cured by the specific action of juniper, unless there are already coarse lesions that are irremediable. In fact, in diseases of the heart, a strict dietetic regimen is a pre-requisite, and if this is not insisted upon, no therapy can be of any avail. In this class of patients I have found that my experience has been the same as that of many others, that the success in giving relief is to be found to a greater extent in a well-regulated kitchen, rather than in the apothecary, and it seems even beneficial, almost necessary, to continue the dietetic regimen for some time after the patient is relieved of the heart trouble. The diet must be absolutely alkaline; all acid must be scrupulously avoided; the most injurious acids are those from vinegar, wine, and apple-juice; not unfrequently their moderate use, only for a few days, has caused relapses. If there is palpitation and irregularity of the heart's action complained of absolute quiet and rest must be enforced; the meals must be taken in small portions in order to avoid all or any pressure on the heart. The patient should subsist on a mild vegetable leguminous diet, *e.g.* vegetables, spinage, turnips, cabbage, radishes, green and dried fruits growing in pods.

The use of roots has a tendency to form carbonates before they leave the system; they counteract the poisonous principles of the urine, bringing about a healthy nutrition of the heart muscles and the whole system. If the patient carries out this regimen he will not desire large quantities of liquid. He may take a few glasses of well- or spring-water, before meals. He may also take seltzer or soda water, or an occasional glass of well-fermented beer. The latter I have never found to do any harm whatever, unless when taken in large quantities. This plan of treatment must be carried out in connection with moderate exercise and occasional baths of luke-warm salt water. If warm water cannot be had, cold water to which a strong solution of boracic acid or salicylic acid has been added is quite agreeable; but the skin must be carefully rubbed dry after each bath. The result is nearly always good, but sometimes treatment is tedious.—From *Wiener Med. Blätter.* T.

A New Field for the Application of Naphthalin.

The diagnosis of causes of diseases of the intestinal canal when diarrhœa is a prominent symptom, has been making rapid strides, but the therapeutics are always away in the rear. Until now we have had only four classes of remedies to prescribe, with indications about as follows: Calomel and castor oil for the removal of irritating and decomposing masses of fæces; opium to control peristalsis; astringents, tannin, argenti, nitras, plumbi acet., etc., for the contraction of the thickened mucous membrane; alkaline solutions to assist the circulation in the portal vein. Since the discovered change of calomel into sublimate in the intestinal canal, its action is claimed to be antiseptic on the contents of the intestines, but this seems to remain true only in theory. Since it is almost impossible to introduce into the stomach, to say nothing about the farther end of the intestinal canal, a drug that will act as an antiseptic without injuring the structures or the system, it matters what agent is used,—sublimate, carbolic acid, salicylic acid, etc. Rossbach has now administered naphthalin for its disinfecting properties, and claims to have succeeded beyond expectation. The preparation, as Fisher has already stated, is found to be an active poison to all germs and spores, while to animals and man it is perfectly bland, whether applied externally or taken internally.

Man can for weeks take 5-gramme doses daily without any untoward results, since the larger part of it passes off per rectum with the fæces, and while its effect on the system in general seems to be nil the contents of the intestines are perfectly disinfected. In cases of chronic inflammation of the large and small intestines, with or without ulceration, when not complicated, the result was quite good. A test of this remedy in other diarrhœas, as typhus and tuberculosis, has not yet been completed.

In cholera infantum the author gave 0.5 (gr. vijss) per day, but noticed no constitutional effect whatever. Another property of naphthalin is that it passes, in small quantities either pure or as phenol, with the urine, preserving in one specimen of urine the acid reaction for five weeks, while usually one week was sufficient to decompose it.

In catarrh of bladder the results were good. The micrococci and sediment of pus disappeared from the urine very rapidly, and the general condition of the patient soon improved. The preparation of naphthalin obtained by sublimation is well tolerated. The unpleasant odor can be overcome by a few drops of bergamot oil.—From *Deut. Med. Zeitung.* T.

Papayotin.

For some time past this remedy has been praised for the relief of a number of diseases; also a number of preparations have been introduced into the market, the value of which differ very much. As is pretty generally known, papayotin is a ferment which has the property

of digesting albumen under certain circumstances (temperature and reaction). The inefficiency of many preparations possibly depends largely on the method or process of preparation, which has a tendency to destroy the property that is wanted. In the experiments that F. made, he employed a preparation that he himself imported from South America, where it was prepared by some German chemists. This preparation had the power of liquefying 1,000 parts of fibrin to one part of the drug, in a short time. The digestion occurs in acid, alkaline, and in a neutral liquid. This property may make it valuable as an addition to the food injected in rectal alimentation, since the reaction of the secretion of the bowel does not disturb its action in the least. Digestion occurs at a temperature of 40°. It has also been recommended as a solvent of false membranes, as in diphtheria. The membrane soon separated and was cast off if the throat was painted with the preparation. The temperature fell rapidly after this. Theoretically, the properties of papayotin have been settled, and it remains to put it to a practical test, and at the same time an effort must be made to lay down proper rules for its use and a process of manufacture, so that the preparations are always of the same quality. In the process of digestion it may become quite valuable; milk can be peptonized. In those instances where papayotin has not acted properly as a solvent, either the drug was of an inferior quality, or the individual did not proceed properly. The action on false membranes in croup and diphtheria is a positive one, if properly applied to the affected part of the throat. Since its action is not an immediate one, it cannot be relied on where symptoms of asphyxia are imminent; therefore, tracheotomy cannot, in these cases, be supplanted by this remedy.—*Deut. Med. Zeitung.* By Finkle. T.

Curare in the Treatment of Tetanus.

After a short historical description of the use of curare in the treatment of tetanus, Karg gives us a number of complications that quite frequently arise, and often present many varieties of symptoms belonging generally to the acute or per-acute form of the disease. While the beneficial effects of curare in tetanus are undeniable, yet the symptomatic indications of the remedy were only partial. At the same time it has been conclusively proven that the customary small dose of the remedy in this disease, can be increased with good results. In many cases two injections of 0.05 grammes each were required, but then the result was generally quite marked, the more so when the disease was in its first stages. Toxic symptoms may occur in some cases where either the dose was increased in size or frequency, so that it became necessary to employ artificial respiration. The symptoms of paralysis which affect the respiratory apparatus sooner than the extremities are always preceded by an increase in the heart's action, which can serve the physician as a guide to suspend the administration of the drug, in order not to provoke complete paralysis.

In two cases where it became necessary to use artificial respiration, a prophylactic tracheotomy was performed, but the results would not warrant a repetition of the procedure. Good results have been recorded where curare was given in combination with other narcotics (morphine), but all the facts taken together point in the direction that we have not as yet found a medicament that is curative in this dread disease. Curare may sometimes relieve the more severe symptoms for hours; therefore we must hold the remedy in high esteem. Too much should not be expected from relatively large doses, but on the other hand, a case of tetanus should not be treated without giving the patient the benefit of curare. There are a number of curare preparations, and further experiment will be necessary to show if any special one possesses superior qualities.—*Wiener Med. Blätter.* T.

Toxic Effects of Carbolic Acid.

A child, aged 2 years, had accidentally swallowed a 30% solution of carbolic acid instead of some tea that was standing in a vessel near by. As soon as the liquor was ingested, severe pains in the throat, mouth and stomach were complained of. Ten minutes later the child was unconscious, the pupils were contracted, and would not re-act to the stimulus of light; the conjunctiva had no sensation, and the muscles of the whole body were relaxed, with a temperature of 35°. Olive oil and an emetic were given internally, with sulphuric ether subcutaneously. For a time of two hours the condition remained about the same. Although stimulants of various kinds were employed at the expiration of this time, the most dangerous symptoms seemed to give way, especially the irregular pulse and respiration. At this point vomiting set in, and the matter had a distinct carbolic odor. Oily substances were given internally with stimulants, and warmth applied to the body. This improved the general condition of the patient, but laryngitis and bronchitis set in, and it required four to five weeks for the patient to recover fully.—*Wiener Med. Wochenschrift.* T.

Correspondence.

Philadelphia Letter.

A complimentary dinner was tendered Dr. John V. Shoemaker by his friends, on his return from Europe, at the Saint George Hotel, Saturday evening, September 20th, at 8:30 o'clock, under the direction of a committee consisting of Drs. Wm. B. Atkinson, F. E. Stewart, W. R. D. Blackwood, L. Wolff, and Messrs Isaac Nathans and W. H. Smith. The dinner, consisting of eighty-one covers, was served in Mr. Ward's best style, and fully sustained that gentleman's reputation as an excellent caterer. The brilliant assemblage embraced representative men in professional and business circles in Philadelphia, New York and Washington, as well as from New Jersey and Delaware. Dr. Atkinson, in his usual happy way at such joyous occasions, announced each toast by appropriate and ofttimes witty remarks, which were responded to in the most pleasing manner by those selected for that purpose.

The toasts and responses were as follows: "Our Guest," response by Dr. John V. Shoemaker; "The Medical Profession," response by Prof. Wm. H. Pancoast; "The City of Philadelphia," response by his Honor Mayor Smith; "The Absent Ladies," response by Dr. A. K. Minnich; "Our Country," response by Hon. H. T. Biggs, Delaware; "Our Hospitals," response by Dr. Samuel R. Knight; "Medical Literature," response by Dr. J. E. Garritson; "Medicine *vs.* Law," response by Judge C. W. McKeehan; "Our Friends Across the Water," response by Dr. John Snowden, Camden, N. J.; "Home Again," response by Rev. Dr. Wiswell.

Dr. Shoemaker sailed for Europe on the Servia, of the Cunard line, June 18th, and made quite an extended tour of the British Isles and the continent, attending the meetings of the British Medical Association at Belfast, and the International Medical Congress at Copenhagen, and reading papers before each society. His paper on "The Oleates," at Belfast was favorably received, exciting much interesting discussion. He displayed oleates made by several firms in America, and spoke very highly of those manufactured by Messrs. Parke, Davis & Co., of Detroit. The doctor's paper before the International Congress was entitled "Remarks on the Treatment of Syphilis by Hypodermic Injections of Corrosive Sublimate." He described in the most instructive way, his success by the use of this method.

In an interview with Dr. Shoemaker by your reporter, since his return, he spoke in warm praise of the hospitality extended to him everywhere. At London he was the recipient of courtesies from Dr. Murrell, the well-known therapeutist, Drs. Ernest Hart, editor of the British Medical Journal; Wakely, editor of the Lancet; T. Colcott Fox, Dermatologist, Westminster Hospital, brother of the late distinguished Tilbury Fox; Radcliff Crooker, successor to Fox as Dermatologist at the University Hospital; Malcolm Morris, Dermatologist at St. Mary's Hospital; Dr. Liveing, assistant to the late Erasmus Wilson, Middlesex Hospital Medical School; Sir William McCormick, Lauder Brunton, D. Haviland Hall, Sangster, Duckworth Payne, of St. Theresa Hospital, and others.

At Edinburgh he had a very pleasant visit with Prof. Fraser, of the University of Edinburgh, Mr. Bell, the former surgeon, and editor of the Edinburgh Medical Journal, and several other distinguished gentlemen, and was shown over the hospitals of that great medical center.

Dr. Shoemaker was impressed with the University of Glasgow, a magnificent pile of buildings situated on a plateau in the midst of the city, and splendidly equipped with laboratories and apparatus; and he was warm in his praise of the hospitality of Glasgow physicians. The service for cutaneous diseases here he considers the finest that he saw in Europe. The beds were filled with interesting cases, and the facilities for nursing, bathing, etc., were not to be excelled.

From Glasgow the doctor proceeded on his travels to Copenhagen; thence, after a pleasant visit, to Berlin, where he inspected the hospitals, laboratories, etc.; thence to Dresden, and to Carlsbad; and from there to Vienna for a few days, where he attended the service of the distinguished dermatologist, Kaposi, and inspected the famous syphilitic wards of Auspitz. From there he went to Munich and inspected the hospitals of that city also, and from Munich to Paris. At Paris he became very much interested in the service of the great Martineau, at the Lucerne Hospital, who examed and treated thirty-six cases of primary syphilis for him in the female ward, using the galvano-cautery on chancre and chancroid alike. Martineaux has a large museum of casts taken from syphilitic patients in his wards, which is a very instructive study. He is now experimenting with syphilitic virus on monkeys, and has two males and two females who have been inoculated with it, and who show syphilis very prettily, both in primary and secondary lesions, in the manner usual in the human species. These monkeys are well trained, and their readiness in obeying commands of the physician who told them to open their mouths, was very amusing. With a laryngoscope the doctor was enabled to demonstrate very clearly the syphilitic lesions in the throats of the monkeys.

Dr. Shoemaker also visited the Hospital St. Louis, and the Bictre Hospital, in Paris. At this institution he spent nearly a day with Dr. Bonneauville, and was greatly impressed with the out-patient department, with its immense service of 5000 patients daily.

Dr. Shoemaker is editor of the Medical Bulletin, published by F. A. Davis, of this city. Being so much interested in medical journalism he took special pains to enquire about the standing of various journals in America, and says he was very glad to hear such commendation for the THERAPEUTIC GAZETTE at each place he visited. Special praise was awarded it for leading in a higher standard for therapeutics, and for its brave attacks on pharmaceutical quackery, especially for letting in the light on the proprietary pharmaceutical scheme. Several gentlemen ventured so far as to say that the GAZETTE is the best medical journal published in America.

Papular Eczema.

Say to "Agricolorum Medicus" (in recent number) that his eczema, mange, scratches, or Mexican itch, is caused by a parasite, and that the following formula will cure it, or at least I have not known it to fail in twenty-five years:

℞ Ungt. sulph., ℥j.
Hydrarg. ox. rub., ℥ij.
Terebinth ven., ℥j.
Acid sulph. (pure), gtt. xxx.

M. Sig. Wash the parts and apply sparingly twice per day.

This ointment will also cure porrigo scutulata.

R. S. GABBEY, M. D.

ROSSVILLE, KANSAS.

Jamaica Dogwood as an Application to Burns.

I have discovered in Jamaica dogwood an excellent application for burns from hot steam or boiling water. My mode of application is to saturate a cloth with the fluid extract and bind it loosely on the burnt parts. Keep moist by frequent applications. The "fire" will be found to be out in a few hours. Old linen makes the best bandage.

S. SHEPHERD, M. D.

BROOKLYN, N. Y.

The Therapeutic Gazette

WILLIAM BRODIE, M. D., Editor.

ASSOCIATE EDITORS:

J. J. MULHERON, M. D. and A. B. LYONS, M. D.

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Announcement for 1885.

WE take this opportunity to announce a change in the editorial management of the THERAPEUTIC GAZETTE, which will go into effect with the close of the current volume. The present year closes our connection with the journal, and simultaneously with the issue of our December number we shall retire from the editorial chair to make room for Dr. Horatio C. Wood, of Philadelphia, who will associate with him Dr. Robert Meade Smith of the same city.

When, six years ago, we assumed charge of the journal, then known as New Preparations, we found it devoted to the consideration of the drugs of more recent introduction into the materia medica. We at once undertook to enlarge its scope, and while endeavoring to preserve its original feature, strove to make it also a journal of general therapeutics. To enable us to do this the more effectually, our publisher enlarged the publication and converted it into a monthly. We found, however, before the expiration of the first year, that we were handicapped by the name under which the journal was known, the profession finding it difficult to dissociate from it their conception of its original object. The name was accordingly changed, and the present volume will close the fifth year of the journal's existence as the THERAPEUTIC GAZETTE. During the period of our editorial connection we and our associates have devoted ourselves to the extent of such time and ability as we have been able to command, to the production of an ideal journal. We do not need to be informed of the fact that we have fallen short; but we have done the best we could under all the circumstances, and we have the satisfaction, in our retrospect, of knowing that in the midst of such failure as may be ascribable to us, we have never detected ourselves with our eyes diverted from the mark at which we aimed. It is grateful also to know that we have been more appreciated for our success than condemned for our failures. The recognition which the profession has vouchsafed our efforts, has been such as might justify a considerable degree of pride, even in those far less susceptible than we to the good opinion of their brethren. We have beheld in the THERAPEUTIC GAZETTE during our incumbency of its editorial chair, a success in point of its subscription list (which is the best practical criterion of the success of a journal) which is without a parallel in the history of medical journalism in this, or indeed, in any other country. The growth from a somewhat uncertain list of less than a thousand names to one of eleven thousand five hundred *bona fide* subscribers, enthusiastic in their support and warm in their sympathies, in the brief space of five years, is the marvel of medical journalism. We will be pardoned for a little exultation in our share of the credit of this achievement.

In view of the above facts our readers may ask (and the question would be a quite natural one) why the proposed change? Why not leave well enough alone?—a policy so generally recognized to be sound. In reply we would say that the point of "well enough" is not yet regarded as having been reached. The time is held to have arrived when the GAZETTE must move another step forward, and inasmuch as this step will take it into a field into which neither the time which we can devote from the demands of other duties, nor the training of the general practitioner, who is more concerned in ends than the *modus operandi* of the means, permits us to follow it, we bid it a fond adieu, and wish it god-speed. The journal which has heretofore been chiefly a medium for the interchange of professional opinion, and an epitome of therapeutic progress throughout the world, will under its new care incorporate as an additional feature, a department for the consideration of the physiological action of drugs and the therapeutical indications afforded by such action. That the state of medical science to-day demands such a feature in the representative therapeutical journal, will be generally conceded by progressive physicians. The GAZETTE is the only journal devoted exclusively to therapeutics on this continent, and it must lead, and not follow, other medical journals in its specialty. There are, probably, no two physicians in this country better qualified, both by education and by enthusiasm in their work, to assume charge of the proposed new feature in the journal, than Drs. Wood and Smith. The name of the former is known wherever physiological therapeutics are studied. He was, in a sense, the pioneer in this field of research, and in the advances in this direction which have marked the past decade, he has been continually in the van. Dr. Smith, though a younger man, and thus not so well known to the profession at large, has already established for himself a place among the scientific workers in the field of physiological research. It is a source of no little satisfaction to us that the journal has been committed to such worthy hands, and our sincere desire is that they may find Aarons and Hurs in no less abundance than it was our fortune to find them.

Were we to feel no regret at thus severing our

connection with the GAZETTE, it would be because we had deliberately smothered the emotions of our heart. The bonds which it has cemented between us and its readers, cannot be sundered without a pang. Were they to be painlessly severed the fact would indicate a lack of sensitiveness inconsistent with a wholesome vitality. But while feeling a real sorrow on this eve of our farewell, we are so much convinced that the change will be to the interests of both the journal and its readers, that we do not hesitate to yield possession. Our feelings may be fitly compared with those of the fond parent who is about to give to another the child on whom he dotes. He has nurtured her from her cradle and has watched with growing pride her growth to maturity, and words are powerless to express the strength of the bond which unites him to her. It is, however, because he has her interests so truly at heart that he endures the pain of the separation. He makes deep scrutiny into the character of him who robs him of his treasure, and it is only after he has satisfied himself of the young man's ability to support her becomingly, and of his true affection for her, that he yields his slow consent, accompanied by his blessing.

ALTHOUGH our successors are well known to the profession and scarcely require an introduction, we have, nevertheless, in view of their prospective relations to the readers of the GAZETTE thought it well to publish the following biographical sketches of them, which will, doubtless, be read with interest:

Horatio C. Wood, M. D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System, in the University of Pennsylvania; Physician to the Philadelphia Hospital; Member of the National Academy of Science, etc., was born January 13th, 1841, at Philadelphia, Pennsylvania. He was the son of Horatio C. Wood, Sr., and Elizabeth H., daughter of John Bacon, for many years Treasurer of the City of Philadelphia. He was descended on his father's side from a Richard Wood, who emigrated from Bristol, England, in 1682 or 83, and settled in Philadelphia. The family afterwards removed to New Jersey, the generation preceding Dr. Wood returning to Philadelphia. He is a nephew of the late Dr. Geo. B. Wood, who died childless. Intermingled with the English blood is a Scotch strain, coming down, according to the genealogical researches published by Mr. Gideon Scull, of England, from a brother of Robert Bruce, of Scotland.

Dr. Wood developed a fondness for natural history early in life. His literary education was received at Friends' schools, among the most notable of which was the West Town Boarding School, near West Chester, Pa.; and the natural bent of his mind was toward professional pursuits. He studied medicine at the University of Pennsylvania, and received his degree in March, 1862. But before he entered upon his medical course he had become an earnest worker in the Academy of Natural Sciences of Philadelphia, and distinguished himself in the scientific field by original work. His first original paper, published when he was nineteen years old, appeared in the Proceedings of the Academy for 1860. It was entitled "Contributions to the Carboniferous Flora of the United States," and "Catalogue of Carboniferous Plants in the Museum of the Academy, with Description of Three New Species."

Immediately after his graduation in medicine, Dr. Wood was appointed one of the resident physicians of the Philadelphia Hospital, where he remained one year, after which he served a similar term at the Pennsylvania Hospital, and, after spending some time in the military hospitals in and about Philadelphia and Washington, he commenced practice in the former city in 1865. He now took up special work in therapeutics and materia medica, but still continued his natural history studies, and published numerous papers on subjects connected with this branch of science, especially on cell-botany.

In 1866 Dr. Wood was appointed by the trustees of the University of Pennsylvania, Professor of Botany in the Auxiliary Faculty of Medicine, which had been established and endowed by his uncle, Prof. George B. Wood. About 1870 he began to especially study nervous diseases, and on the organization of the new University Hospital, in March, 1874, he was appointed clinical lecturer on nervous diseases, which position, in 1875, was made a professorship by the trustees of the university. In 1870 he was appointed one of the visiting physicians of the Philadelphia Hospital, and since 1872 he has given his attention solely to the science and art of medicine, abandoning entirely his general natural history studies. In 1876, on the death of Prof. Joseph Carson, he was chosen Professor of Materia Medica and Therapeutics in the Medical Department of the University of Pennsylvania, soon after which he resigned the chair of botany in the Auxiliary Faculty of Medicine.

Dr. Wood made his *debut* in the journalistic field July, 1871, as editor of *New Remedies*, published in New York by Wm. Wood & Co., in which position he continued until January, 1873. In 1873 he became editor of the Philadelphia Medical Times, published by Messrs. J. B. Lippincott & Co., of Philadelphia, resigning this position in 1883. Prof. Wood is also sole editor of the latter half of the fourteenth edition of the United States Dispensatory, and his able revision of the fifteenth edition in company with Profs. J. P. Remington and Sadtler, is well-known to our readers. The success of this has exceeded that of any previous edition of the book, about 15,000 copies of it having been sold in a twelvemonth. Dr. Wood's brochure on "Brain Work and Overwork." published in 1879, has been read with interest by the general practitioner all over the land; and the same may be said in regard to a volume entitled "Food for Invalids," published in conjunction with Dr. Fothergill, of London, in 1880.

But the work which crowns the effort of the life of this distinguished teacher and author is his "Treatise on Materia Medica and Therapeutics," published in 1875; fifth edition in 1883. This work was the first one published in the English language in which the physiological action of drugs was brought prominently forward as a groundwork of a treatise on therapeutics. Its object is best described in the preface by the author.

"The old and tried method in therapeutics is that of empiricism, or, if the term sounds harsh, of clinical experience. As stated by one of its most ardent supporters, the best possible development of this plan of investigation is to be found in a close and careful analysis of cases before and after the administration of a remedy, and, if the results be favor-

able, the continued use of the drug in similar cases. It is evident that this is not a new path, but a highway already worn with the eager but weary feet of the profession for two thousand years."

"That very much has been thus accomplished, it were folly to deny. Leaving out of sight the growth of the two last decades, almost all of the current therapeutic knowledge has been gained in this way."

"Therapeutics developed in this manner cannot, however, rest upon a secure foundation. What today is believed is to-morrow to be cast aside, certainly has been the law of advancement, and seemingly must continue to be so. What has clinical therapeutics established permanently and indisputably? Scarcely anything beyond the primary fact that quinia will arrest an intermittent, that salts will purge, and that opium will quiet pain and lull to sleep."

* * * * * *

"Since the profession has toiled so long and found so little, if further progress is to be made we must question the old methods and search out new ones, which, happily, may lead to more fruitful fields. In the ordinary affairs and business of life, when anything is to be accomplished the effort is always to discover what is to be done, and then what are the means at command. A primary knowledge of the end to be accomplished, and a secondary acquaintance with the instruments are a necessity for successful human effort, and until the sway of this law is acknowledged by physicians, medicine can never rise from the position of an empirical art to the dignity of applied science. Until comparatively a recent period, it has been impossible to comply with this law. But, through the advances made by the pathologists and by the students of the natural history of disease, we are fast learning the methods in which nature brings the body back to health. When this is done—when disease is thoroughly understood,—we shall have wrought out the first element of the problem, shall have complied with the first element of the law."

* * * * * *

"The work of the therapeutist is chiefly with the second portion of the law. Evidently, it is his special province to find out what are the means at command, what the individual drugs in use do when put into a human system. It is seemingly self-evident that the physiological action of a remedy can never be made out by a study of its use in disease. Under all circumstances the problem is one of the most complex with which the human mind has to grapple; and to introduce into this problem the new and ever-varying factors of the effect of disease and its natural vibration on the system is to put the matter beyond human prescience."

Professor Wood's excellent treatise has been received with great favor by the medical world, and has already been translated into five different languages.

Robert Meade Smith, M. D., Professor of Comparative Physiology at the University of Pennsylvania; Member of the Academy of Natural Science, of the Leipsic Pharmaceutical Society, and of the College of Physicians of Philadelphia; Lecturer on Physics and Chemistry in the Episcopal Academy, Philadelphia, was born at Philadelphia, June 2d, 1854, and is the son of the late distinguished physician of that city, Francis Gurney Smith, M. D., Professor of Physiology at the University of Pennsylvania. His father's family have long resided in Philadelphia, and for several generations were in the East India merchant trade. His mother was a Miss Dutich, of Dutch descent, her grandfather having emigrated to this county from Holland in the early part of the last century. Prof. Smith is one of a family of four children, two brothers and two sisters. He received his school education at the Academy of the Protestant Episcopal Church, of Philadelphia, a noted institution which celebrates its centennial anniversary this year. He entered the department of arts at the University of Pennsylvania, in 1869, and received his degree of Bachelor of Arts, in 1873. The same year he commenced his medical studies at the Medical Department of the University of Pennsylvania, from whence he graduated in 1876, receiving the degree of Master of Arts at the same time, also the prize for his elaborate and exhaustive thesis founded on original research on the physiological action of sanguinaria canadensis—a volume of 400 pages, based on nearly 200 original experiments, of which an abstract was published in the American Journal of Medical Sciences, 1876.

Immediately after his graduation Dr. Smith was appointed one of the resident physicians at the Episcopal Hospital of Philadelphia, serving in that capacity the regular term of sixteen months. After leaving the hospital he entered practice in his father's office; and acted as clinical clerk for Dr. John Forsyth Meigs, at the Pennsylvania Hospital. Finding his inclinations were toward the field of original research, he now declined the position of Physician to the Out-Patient Department of the hospital, and accepted the position of Demonstrator of Physiology at the University of Pennsylvania, which position he held for five years, resigning it last spring to accept the Professorship of Comparative Physiology in the same institution.

During the winter of 1878, while demonstrator, he delivered the first extended course of lectures on experimental physiology, in Philadelphia, at the University. These lectures were very popular and attracted a large class, and were published in part in the Medical and Surgical Reporter, during that and the following year. About this time he commenced to attract attention as a writer of pungent critical reviews, which were contributed to the columns of the American Journal of Medical Sciences; and during this time he was also engaged in working up original communications for this and various journals. January, 1881, he was appointed Lecturer on Physiology and Chemistry at the Episcopal Academy of Philadelphia, the chair formerly occupied by the well-known and distinguished Professor Henry Morton, now President of Stevens' Institute, Hoboken, New Jersey.

In the year of 1879-80 he received leave of absence from the University, and went to Europe to study, the first course being one on embryology, in the laboratory of the late distinguished Professor Balfour, Cambridge, England. From thence he went to Leipsic, Germany, and entered the laboratory of Professor Ludwig, the most distinguished physiologist now living, and there worked up the distribution of the bile-ducts in the liver, and published a long essay based on original research "On the

Development of Heat and Muscular Contraction," in the Archiv für Anatomie und Physiology, 1881. He now returned to the United States to resume his teaching at the University of Pennsylvania, and to continue his original work in physiology.

Dr. Smith's debut in medical journalism, in an editorial capacity, was in 1881, when he was appointed on the editorial staff of the *American Journal of the Medical Sciences*, and the *Medical News*, published by Henry C. Lea & Co., Philadelphia, which position he retained until April, 1883, contributing numerous editorials and reviews on physiological topics. In April, 1883, he again went to Germany, where he spent another semester in Prof. Ludwig's laboratory, at Leipsic, from whence he published a continuation of his work, "On the Development of Heat in Muscular Contraction," in addition to papers "On the Amount of Blood thrown out from the Heart on each Contraction," and "On the Absorption of Sugar and Albumen by the Stomach." The experiments on heat opened up an entirely new field of research, and were the first accurate experiments made on the contracting muscles of warm-blooded animals. During his editorial career on the journals above mentioned, Professor Smith created much interest and added no little impetus to the subject of physiological research on drugs by his able translation of "Hermann's Experimental Pharmacology," which, says the *New Orleans Medical and Surgical Reporter*, appeared under the modest title of a translation, though half of the work, and the better half, was the original work of the translator; and while he was demonstrator at the University, under his direction the physiological laboratory became the source of many excellent papers on physiological research in this department, worked up by the students as inaugural essays, several of which gained prizes for their authors.

Both Professors Wood and Smith are incessant workers. In addition to performing their onerous duties in their capacities as practitioners, teachers and editors, they have published, *inter alia*, the following monographs and papers.

BY PROF. H. C. WOOD.

Botanical. Contribution to our knowledge of the Flora of the Coal Period in the United States. 4to, 10 pages, 2 plates. *Transactions of the American Philosophical Society*, 1866.—Monograph of the Fresh-Water Algæ of North America. 4to, 270 pp., 19 colored, 2 uncolored plates from 360 original microscopic drawings. *Smithsonian Contributions to Knowledge*, 1872.

Entomological. Description of New Species (9) of North American Pedipalpi. *Proceedings of the Academy of Natural Sciences*, 1863.—Description of New Species (10) of North American Polydesmidæ. *Proceedings of the Academy of Natural Sciences*, 1864.—Descriptions of New Species (14) of North American Julidæ. *Proceedings of the Academy of Natural Sciences*, 1864.—Description of New Genera (2) and Species (2) of North American Myriapoda. *Proceedings of the Academy of Natural Sciences*, 1864.—Description of a New Genus and New Species (2) of Polyzoniidæ. *Proceedings of the Academy of Natural Sciences*, 1865.—Descriptions of New Species (4) of Texan Myriapoda. *Proceedings of the Academy of Natural Sciences*, 1867.—Notes on California Myriapoda, with Descriptions of Six New Species. *Proceedings of the Academy of Natural Sciences*, 1867.—Monograph of the Pedipalpi of North America, 4to, 20 pp., 1 plate. *Journal of the Academy of Natural Sciences*, 1862.—Monograph of the Myriapoda of North America. 4to, 112 pp., with 61 figures in the text, and 3 plates. *Transactions of the American Philosophical Society*, 1865.—Monograph of the Phalangidæ of North America. *Proceedings of the Essex Institute*, 1868.

Experimental Physiology and Therapeutics. An Examination into the Truth of the Asserted Production of General Diseases by Organized Entities. 20 pp. *American Journal of the Medical Sciences*, lvi., 333.—A Contribution to our Knowledge of the Physiological Action of the Alkaloids, Viridia, Veratroidia, and Veratria of Commerce, and of the Resin of Veratrum Viride. 17 pp., 35 experiments. *American Journal of the Medical Sciences*, lix., 36.—On the Influence of Section of the Cervical Pneumogastrics upon the Action of Emetics and Cathartics. 24 pp., 51 experiments. *American Journal of the Medical Sciences*, lx., 75.—Acetic Ether as an Anæsthetic. 1 p. *American Journal of the Medical Sciences*, lx., 137.—Contribution to our Knowledge of the Physiological Action of Atropia. Part I., 4 pp., 10 experiments. *American Journal of the Medical Sciences*, lxi., 128. Part II., 9 experiments, 10 pp., *Ibid.*, lxv., 333.—Experimental Researches on the Physiological Action of Nitrite of Amyl. *Warren Prize Essay.* 24 pp., 49 experiments. *American Journal of the Medical Sciences*, lxii., 39.—A Contribution to our Knowledge of the Vaso-Motor Action of Ergot. 4to, 2 pp., 8 experiments. *Philadelphia Medical Times*, May, 1874.—On the Oxytocic Action of Quinine. 2 experiments. *Philadelphia Medical Times*, iv.—An Investigation into the Action of Veratrum Viride. Pamphlet, 50 pp., 48 experiments. Reprinted from *Philadelphia Medical Times.*—A Study of the Nature and Mechanism of Fever. 45 pp., 13 experiments. *Toner Lecture. Smithsonian Miscellaneous Collections*, 1875.—Thermic Fever, or Sunstroke. *Boylston Prize Essay.* 12mo, 128 pp., 29 experiments. J. B. Lippincott & Co., 1872.—American Hemp. *Prize Essay. Proceedings of the American Philosophical Society.*—A Study of Convulsants. 4to, 4 pp., 16 experiments. *Philadelphia Medical Times*, vol. iii.—Preliminary Note on a New Medicinal Plant and its Alkaloid. 1 p. *Philadelphia Medical Times*, vol. vii.—Note on the Alkaloid Sophoria. 2 pp. *American Journal of Pharmacy*, 1878. Bromide of Ethyl, its Physiological Action and Value as an Anæsthetic. *Philadelphia Medical Times*, vol. x.—Fever, a Study in Morbid and Normal Physiology. 4to, 250 pp., 121 experiments. *Contributions to Knowledge, Smithsonian Institute*, 1880. In conjunction with Dr. H. Formad, Researches on the Effects of Inoculating the Lower Animals with Diphtheritic Exudation. 4to, 6 pp., 62 experiments. *National Board of Health Bulletin*, 1880; also, Memoir on the Nature of Diphtheria. *National Board of Health Report.* Appendix for 1882. 80 pp. 288 experiments. In conjunction with Dr. E. T. Reichert, On the Physiological Action of Essential Oils. 1 p., 12 experiments. *Journal of Physiology*, 1880; also a contribution to Our Knowledge of Certain Drugs upon Animal Temperature, 6 pp., 45 experiments, vol. iii., *Ibid.*

Clinical Medicine. On Sunstroke. 6 pp. *American Journal of the Medical Sciences*, xlvi.—Case of Leucinosis, or Yellow Atrophy of the Liver. 13 pp. *American Journal of the Medical Sciences*, liii., 418.—On Acute Dropsy, Scarlatinal, and Idiopathic. 11 pp. *American Journal of the Medical Sciences*, lxii., 75.—Therapeutic Value of Nitrite of Amyl. 4 pp. *American Journal of the Medical Sciences*, lxii., 373. Reports of Medical Cases. Various Papers. *Pennsylvania Hospital Reports*, 1868. *Philadelphia Medical Times*, vol. i. to vol. xi. Leukæmia and Pseudo-leukæmia. *American Journal of the Medical Sciences*, Oct., 1871. On the Diagnosis of Diseases Accompanied with Real or Apparent Paraplegia without Marked Muscular Degeneration. *American Clinical Lectures*, vol. i., 1875. Contributions to our Knowledge of Nervous Syphilis. *American Journal of the Medical Sciences*, Oct., 1880. Clinical Aspects of Cerebral Syphilis. Trans. College of Physicians of Philadelphia, Febr., 1884, 37 pp. On the Use of Hydrobromic Acid in Epilepsy. *Medical News*, 1883. The Rational Treatment of Dysentery. *Philadelphia Medical Times*, viii., 24. Biscoloration of the Skin produced by Oxide of Silver. *Ibid*, vi., 204.

Very many clinical lectures have been published either with or without the supervision of Dr. Wood, in the *Philadelphia Medical Times*, the *Philadelphia Medical and Surgical Reporter*, the *Hospital Gazette*, the *New York Medical Record*, the *Medical News*, and other journals. To give an idea of the scope of these lectures we append a list of the subjects treated of in some of them:

On the Use of Digitalis in Diseases of the Heart.
On Cerebral Hyperæmia.
On the Use of Electricity in Paralysis.
On the Diagnosis of Apoplexy.
On Concussion of the Spine.
On Congestion of the Spine Cord.
On Chronic Myelitis.
On Epilepsy.
On the Use of Calomel in Functional Hepatic Disease.
On the Trophic Affections of the Bones in Diseases of the Nervous System.
On Hystero-Epilepsy.
On Neuritis of the Bronchial Plexus.
On Idiopathic Tetanus.

BY PROF. ROBERT MEADE SMITH,

1. The Acid of the Gastric Juice.—*Phila. Med. Times.* Feb. 13, 1875.

2. The Physiological Action of Sanguinaria Canadensis. Prize Essay.—*Amer. Jour. of the Med. Sci.* Oct., 1876.

3. The Effects of Pressure on the Irritability of Nerve Trunks.—*Phila. Med. Times.* July 6, 1878.

4. The Paths of Conduction of Sensory and Motor Impulses in the Cervical Segment of the Spinal Cord. In conjunction with Dr. Ott.—*Amer. Jour. of the Med. Sci.* Oct., 1879.

5. The Decussation of the Spinal Inhibitory Fibres. In conjunction with Dr. Ott.—*Jour. of Nerv. and Ment. Diseases.* Jan., 1880.

6. The Inhibitory Fibres of the Spinal Cord. In conjunction with Dr. Ott.—*New York Med. Jour.* Dec., 1879.

7. An Automatic Current Interrupter.—*Phila. Med. News.* Sept. 30, 1882.

8. Die Temperatur des gereizten Säugethiermuskels.—*Du Bois Reymond's Arch. für Anat. u. Phys.* 1881. Aus dem Physiolog. Institut zu Leipzig.

9. Dissection of a Human Otocephalic Cyclops Monstrosity. In conjunction with Dr. Parker.—*Amer. Jour. of the Med. Sci.* July, 1882.

10. Laboratory Exercises in Physiological Chemistry.

11. Eight Lectures on the Physiology of Digestion.—*Phila. Med. and Surg. Reporter.* 1878 and 1879.

12. A New Method of Studying Intestinal Digestion.—*Phila. Med. News.* 1882.

13. A New Method of Measuring the Amount of Blood thrown out by the Heart at Each Contraction.—*Phila. Med. Times.* Jan. 26, 1884.

14. The Time Required by the Blood for Making One Complete Circuit of the Body.—*Amer. Jour. of the Med. Sci.* April, 1884. And *Trans. Phil. Col. of Phys.* 1884.

15. Die Wärme des Erregeten Säugethiermuskels.—*Arch. für Anat. u. Physiologie.* 1884. Aus der phys. Anstalt zu Leipzig.

16. The Thermic Phenomena of Contracting Mammalian Muscles.—*Arch. of Med.* June and Aug, 1884.

17. Die Resorption des Zuckers und Eiweisses im Magen.—*Arch. of Anat. u. Physiol.* Aus der phys. Anstalt zu Leipzig.

18. Methods of Studying the Physiological Action of Drugs.—*Therapeutic Gazette.* Aug., Sept., Oct., 1884.

19. Resorption of Sugar and Albumen in the Stomach.—*Boston Med. and Surg. Jour.* Oct., 1884.

CRITICAL REVIEWS.

20. Ott, Action of Medicine.—*Amer. Jour. of the Med. Sci.* Apr., 1878.

21. Antagonism of Drugs.—*Amer. Jour. of the Med. Sci.* Jan., 1879.

22. Wines in Health and Disease.—*Amer. Jour. of the Med. Sci.* July, 1878.

23. A New Function of the Liver.—*Amer. Jour. of the Med. Sci.* Oct., 1877.

24. The Physiology of Diabetes.—*Amer. Jour. of the Med. Sci.* July, 1879.

25. Pneumono-Dynamics.—*Amer. Jour. of the Med. Sci.* Apr., 1878.

26. Convulsions and Paralysis.—*Amer. Jour. of the Med. Sci.* Apr., 1878.

27. Treatment of Stammering.—*Amer. Jour. of the Med. Sci.* Apr., 1878.

28. The Functions of the Semicircular Canals.—*Med. News.* 1882.

29. Resection of the Lung.—*Med. News.* Feb. 4, 1882.

30. The Movements and Electric Irritability of the Human Heart.—*Med. News.* Apr., 1882.

31. Physiology of the Spleen.—*Med. News.* Mar. 11, 1882.

32. Influence of the Spleen in Digestion.—*Med. News.* Dec. 16, 1882.

33. Absorption from the Bladder.—*Med. News.* Mar. 11, 1882.

34. Translations, with Additions, of Hermann's

Experimental Pharmacology.—Phila. H. C. Lea's Son & Co.

35. Article "Circulation" in *Amer. Suppl. Encyclo. Brittanica.*

36. Article "Death," in *Amer. Suppl. Encyclo. Brittanica.*

37. Reports on Progress of Physiology.—*Phila. Med. Times.* 1884.

During the past year Dr. Smith has also been a member of the editorial staff of the Philadelphia *Medical Times.*

Publisher's Notice.

IN order to accommodate the prospective changes above outlined, and that the mechanical execution of the THERAPEUTIC GAZETTE may be commensurate with the improvement which these changes will ensure, its size will be increased from 48 pages (the present number) to 72 pages, with the commencement of the new volume, and it will appear in an entirely new dress of type throughout. In order, also, to the most successful editorial management under its new corps, the editorial office will be removed to Philadelphia, the office of publication, however, remaining in Detroit, as at present.

It will require no argument to convince the readers of the GAZETTE, that these contemplated changes will involve a very material increase in the cost of publication. This fact together with the fact, of which its readers have doubtless, always been aware, that the present subscription price has been barely sufficient to cover the actual outlay for paper and printing, has rendered necessary an increase in the price of subscription. While this increase has been necessary it will, however, not prevent the GAZETTE from continuing to be the cheapest medical journal published in this or any other country, the price being estimated on the basis of the actual amount of material furnished. The subscription price in future will be $2.00, and when it is remembered that for this sum there are furnished 864 pages, royal octavo size, of the quality of material which the proposed changes will ensure, it will be seen that the journal will still be a marvel of cheapness. These proposed changes will, moreover, secure for it a metropolitan character which will much enhance its value, and make it such a journal as the general practitioner of all countries, will find it to his profit to read and to preserve for reference.

As an additional inducement to present subscribers, the GAZETTE will be furnished to such as pay up their arrearages and renew their subscriptions, prior to January 1st, 1885, for $1.50, as per blanks which will be found enclosed in the present number. This offer does not affect such subscribers as may have remitted for the journal for 1885 at existing rates, prior to October 15, inst; all such will be continued on the list without additional charge.

Blanks will also be found for clubbing with the Medical Age, which will continue under the editorial management of Dr. J. J. Mulheron. The Medical Age and the THERAPEUTIC GAZETTE will be furnished to one address for $2.50.

Remittances and communications of a business nature, should be sent to the office of publication,

GEORGE S. DAVIS,
Box 470, Detroit, Mich.

Pseudo-Journalism.

OUR youthful but sprightly and alert contemporary, the Texas Courier-Record of Medicine, has not been slow to detect, and having detected it to express its opinion of, the one abuse which, above all others, is to-day operating alike to the detriment of medicine as a profession, and to the pecuniary loss of the practitioners of medicine, viz., the patronage which reputable physicians accord proprietary compounds. In its quaint style it administers to the journals which, in the professional livery, foster this abuse, a castigation richly merited by the journals themselves, while its blows, over-reaching these, fall with scarcely less weight on the physicians whose patronage is their very life. After calling attention, as we have frequently done, to the use which the vendors of these quasi professional preparations make of the physician's endorsement, in creating a demand for their wares independently of the physician's prescription, it pays its respects as follows to the journals whose sole *raison d'être* is the advertisement of these wares:

"These pseudo-medical journals are doing incalculable harm to the legitimate practice, not only in the way just indicated, but in many others. They are prostituting journalism to their own base purposes, and practising physicians are aiding them in the work. These manufacturing-chemico-journalists are getting the pharmacopœia all mixed up, and giving a physician a very confused idea of therapeutics; in fact, the tendency is to do away with a knowledge of therapeutics altogether. The manufacturing chemist thinks for you; he makes your diagnosis for you, and furnishes an excellent prescription ready-made, to meet all the indications at once, endorsed by the professor. Why should you think?

We in Texas are endeavoring to get a law passed to regulate the practice. We will never regulate anything as long as practising physicians will read the Tympanitic Gas Bag and that class of literature. We ask the average reader, Would you consult with an irregular? Would you go to one for advice or counsel? No; but you will and do read bastard, pseudo-medical literature. These publications are to legitimate journalism just what the quacks are to the medical profession. Still our readers—some of them whose names we know—take them to their hearts, and not only read them—accept them as orthodox, but are actually gulled by them and made use of to introduce "Cool & Shady's Elixir Goose-grease, Catnip and Cumfrey compound (*phosphated*), with Iodo-horse-mint and Honey, the great vitilizer," into respectable families. When the family use a bottle, and are caught by the sound of the name, (that's their racket—it sounds learned, and has just enough domesticity about it to catch that curse of the profession—old grannies) the doctor's services can be, and are, generally dispensed with in that family and in all others of their acquaintance; for a woman once prevailed on to do a silly thing, and by her doctor, wants to justify herself and extend her doctor's fame, and she does so (over the left) by establishing a demand for this high-sounding absurdity; and the doctor,—'what is he profited if he gains a whole' basketful of samples 'and loses his own' paying practice?"

These be wise words and fitly spoken. We commend them to the thoughtful attention of the profession outside of Texas.

Write Your Name Plainly.

AN ERROR in the name of the writer of the interesting article on "Medicinal Plants Used by the Cree Indians," in our September number, will

serve to point a moral: Contributors should exercise especial care in the chirography of their names. In the matter of proper names there are no aids whereby the proof-reader may assist the compositor in deciphering a faulty, or an attempt at a highly artistic, penmanship. It is, therefore, advisable that a contributor enclose with his MS., his printed card. Had this precaution been taken against the blunders which printers are proverbially prone to commit, the name of Dr. Walton Haydon, in the article above referred to, would not have been transformed by the types into "Dr. Walter Spaydon." We ask Dr. Haydon's pardon for this liberty taken with his patronymic, but must say, in justice to "ye intelligent compositor," that a reference to the MS. shows that much-abused individual to be much less at fault in this instance than usual.

For "sedum satifolium" in Dr. Haydon's article read "ledum latifolium," and for "padus Virginiana" read "prunus Virginiana."

Credit, Please.

THE Southern Medical Record, for September, gives an able "abstract" (made with the scissors) of our article on "The Summer Complaint of Children." While we admire our contemporary's taste and its regard for the edification of its readers, as shown in its choice of its material in this instance our admiration would have been much enhanced had it but indicated the source whence it drew its treasure. There is just enough vanity in our composition to cause us to feel flattered by such little compliments, and to make us feel hurt when others assume the credit for work which cost us no small amount of cerebration. Our esteemed contemporary, the Record, is, moreover, not the only medical journal which has been thus guilty, and we happen to refer to it because its act was the last straw, as it were, whose pressure forced us to speak.

Sprudel Water.

THE sale of oxygenated mineral waters has grown to great dimensions within the past decade, and the original output of springs has been very largely supplemented by artificial combinations. Doubtless, these mineral waters intelligently administered are capable of much good, and it is very desirable that the consumers be furnished with such as are not open to the suspicion of sophistication. We have subjected to a sufficient test to establish the basis of an opinion, a product of the Mt. Clemens Mineral Springs, of this state, which is put on the market under the name of Sprudel. It is a very agreeable table water, and besides furnishing a grateful beverage, is mildly laxative and diuretic. These properties will readily suggest its therapeutic application.

Bacillary Phthisis.

THE first methodical attempt to treat that common disease and scourge of humanity, pulmonary consumption, from the etiological standpoint of the bacillus tuberculosis (Koch's bacillus) harmonizing the new and now generally accepted etiology with the old pathology, and pointing out the true drift of a rational prophylaxis and therapeutics, is by Professor Germain Sée, Physician to the Hotel Dieu, Paris, France. This work is enjoying an amazing popularity in France, and we are pleased to learn that it is being reproduced in this country by our friend Dr. E. P. Hurd, of Newburyport, with the coöperation of Professor Sée. It will be published by Wm. Wood & Co., of New York, under the title of Bacillary Phthisis.

EDITORIAL ABSTRACTS AND ANNOTATIONS.

The Interval Treatment of Bronchitis.

The fact that a patient has had several attacks of bronchitis should, in the opinion of Dr. Edward Drummond, who contributes an article on the subject to the Practitioner, be regarded as evidence of the existence of a pathological condition which is not removed with the subsidence of the particular attack of bronchitis proper. This condition is a predisposing cause of the bronchitis, and requires intelligent treatment during the intervals of the attacks. In such cases of recurrent bronchitis deep scrutiny will reveal emphysema, heart dilatation, lung collapse, interstitial lobular pneumonia, dilatation of the bronchi, or other changes which besides directly predisposing to acute attacks of bronchial inflammation, slowly but surely sap the patient's strength. The treatment which overlooks these or fails even to make an effort to discover them is defective and delusive.

Dr. Drummond enumerates several types of the cases prone to bronchitic attacks, as follows:

No. 1 is a feebly vitalized, anæmic girl, with a phthisical family history. Her laryngeal mucous membrane is shown by the laryngoscope to be pale, with perhaps here and there a weak ulcer. The bronchitis here is a mere incident, and the all-important thing is to face the threatened phthisis by pure air, good food, exercise, iron, and cod-liver oil.

No. 2 is a woman beyond the menopause, with weak and flabby muscles, blueness of the lips, and undue fulness of the veins of the skin of the face; is short-breathed, nervous, and has an anxious look; sleeps badly, and wakes suddenly. We hardly need the aid of the pulse and stethoscope to tell that she has dilatation of the heart, and, probably, mitral disease. Digitalis, with potash and a bitter tonic, saline aperients, nourishing food in small quantities, whiskey and water as a stimulant, abandonment of her overheated room for passive or gentle walking exercise in the open air, will postpone the catastrophe for years, and are more important than the squills, ammonia, and senega for the actual attack.

No. 3 is an old gentleman, manifestly gouty, with early kidney changes, subject to headache, and feeling generally *gêne*; has small patches of eczema somewhere about him; has been to German baths and lived according to order, but took it upon himself to add champagne, Curacoa and black coffee, perhaps ice creams, to the usual regimen. His sole chance of escape from disaster is to live simply by strict rule on a diet largely consisting of vegetables, fish, eggs, milk, poultry, with dry sherry or whiskey-

and-water; tepid sponge baths, warm underclothing; to avoid club life, with its temptations to dietetic errors, and the society of people like himself; to spend his winters in the south of Europe or on a sea voyage, and his summers on bracing upland moors. Iodide of potassium, and arsenic with chiretta will do good, and tepid Carlsbad or Hunyadi Janos water.

No. 4 is a strong, florid, muscular young man who hunts, shoots, lives well, in conventional phrase; has a good appetite, enjoys life, but is becoming plethoric; has wheezy breathing, shooting pains in his fingers or toes—or dull aching in the soles of the feet or near a large joint; has had attacks of "red sand" in his urine; perhaps has a neuralgia. He must learn to live *within his powers*, to restrict his diet especially in meats, to abjure strong wines, malt liquor, and take a minimum of alcohol in any form, to put his trust in Epsom salts and exercise. He may live to a long age, for the declining vital power of age is conservative of such; but without prudence he will develop the condition of the last—No. 3.

No. 5 is a lady, refined, delicate all her life, inclined to anæmia, with little physical power, but mentally acute and bright; has accustomed herself morbidly to watch the weather as a natural foe, has become a subtle meteorological machine, keeps her warm room for long periods, her heart is weak but otherwise normal, her bronchitis is a bronchorrhœa. She has engrafted on her other ailments a decided hypochondriasis; and, depriving her liver of the natural stimulus of exercise, employs probably podophyllin or some quack pill instead. This kind of person is a chronic trouble. Nitric acid with compound infusion of gentian and cascara sagrada as a tonic aperient, will be of service. Iron she cannot digest, quinine gives her headache, she is liable to become homœopathic at any rate when not seriously ill, but a thorough change in her mode of life is needed, and a "hardening" process. Dr. Greenhow has well said that "Bronchitis is not so much excited by exposure to any particular degree of cold, as to alterations of temperature; and a patient confined to his room sometimes feels changes of temperature more than those that go abroad. Indeed, persons who live in heated rooms, and screen themselves from every draught of air, sometimes become so susceptible that even accidental cooling of the apartment proves as injurious as a much more serious exposure would to persons of ordinary habits." Keep up the circulation, give tone to the mucous membrane and system generally, and judiciously accustom the patient to external temperature and open air exercise.

The Oleate of Copper in Parasitic Skin Diseases.

The recognition of the fact of parasites as the cause of a very large proportion of cutaneous diseases, marked a very decided advance in the therapeutics of these affections. The fact having been recognized, the only question which presented itself was the discovery of an agent which should destroy the parasite without causing in the skin itself a greater disturbance than that caused by the insect. It required a number of years for this discovery. Many were the drugs recommended to this end, but the crucial tests of experience showed them, nearly all, to be indifferently adapted to the end for which they were designed. Possibly, the fact of the ignorance of such a solvent as would most effectually carry the parasiticide to the exact location of the parasite, and thus insure its actual contact therewith, may have been largely to blame. If this was the case, the desideratum has been very fully supplied in oleic acid. Certainly the salts prepared with this acid, which have been introduced to the profession within a comparatively recent time, have placed in the hands of the profession more effectual means than had been previously enjoyed, for the treatment of skin affections of a parasitic nature.

In an article in the August 30th number of the New York Medical Journal, Dr. F. Le Sieur Weir, clinical professor of diseases of the skin, in the Medico-Chirurgical College, of Philadelphia, gives a comprehensive report of the results of his use of the oleate of copper in five hundred cases of parasitic disease of the skin. He prefaces this report with some remarks, with which we are not particularly interested at this time, on the manner of preparing this salt so that its most beneficial action may be secured. The oleate of copper, he remarks, as well as all other oleates, prepared after the manner described, is, to all intents and purposes, a saturated solution, and he regards the existence of any free oleic acid in the preparation as an error which is very apt to complicate the results of the employment of the oleate proper.

Dr. Weir claims to have had exceptional opportunities for testing the curative action of the oleate of copper in parasitic diseases of the skin, and his cases cover no less than seven different forms of such disease, namely: Tinea tonsurans, T. circinata, T. kerion, T. sycosis, T. versicolor, T. favosa and eczema marginatum. In his employment of the various remedies in vogue before the introduction of the oleate of copper, he found that the remedies diminished in their therapeutic activity with the length of time during which they were employed. This objection does not apply to the oleate of copper. His plan of treatment is as follows: From hairy parts he first cuts off the hair close to the skin, over the immediate part affected, and clips an area extending at least one inch beyond the affected surface. The parts are then anointed with fluid cosmoline, or glycerine, or a bread-and-milk poultice is applied, for the purpose of dislodging such scales, crusts, scurf, or actual dirt, as may have accumulated. The ointment of the oleate of copper, of such strength as is suited to the severity of the case, is then rubbed into the diseased patches gently, but thoroughly, so as to secure as complete and rapid absorption as possible. The parts should then be covered or left bare, as the exigencies of the case may dictate. The process of inunction should be repeated at least twice daily, this being usually amply sufficient. The strength of the ointment varies with the severity of the case, from one drachm to six of the cupric oleate, to the ounce of cosmoline. The results of this treatment, as reported, are certainly very remarkable, few cases requiring its continuance for over two weeks.

It is interesting to note that Dr. Weir regards epilation as a quite unnecessary procedure in the treatment of the diseases above referred to. If additional experience shall show that the use of this preparation may obviate the necessity of epilation, the value of the treatment must be very greatly enhanced. In barber's itch epilation has heretofore been regarded

as an essential step in the treatment, but Dr. Weir emphasizes the statment that he has rarely found it necessary under the use of the oleate of copper, even in this affection. When the disease attacks the eyelashes it is more or less necessary, inasmuch as without it a satisfactory application of the ointment cannot be made.

It will be seen from the above that Dr. Weir's experience corroborates very strongly the report of the somewhat remarkable case, by Dr. Armer, under another head in this number.

Sea Atmosphere Manufactured to Order.

Dr. B. W. Richardson, of the Asclepiad, is nothing if he is not original. His originality has, indeed, been so marked in so many of his suggestions on hygienic topics, that he has been suspected, and even accused, of eccentricity of genius—for genius he certainly has, and of a high order. The profession will recall his story of Hygeia, the model city, with its sense and its nonsense. His latest suggestion is of a formula which, while not disturbing the comforts of home and family, secures to the patient the benefits which have hitherto necessitated a journey to the sea shore. It consists of a solution of peroxide of hydrogen (10 volumes strength) containing one-per-cent ozonic ether, iodine to saturation and 2.50-per-cent. of sea salt. This solution is to be diffused in the sick chamber by means of a spray-producer of such fineness as shall require its operation for the space of an hour to consume two fluid ounces of the fluid. The effect is said to be the agreeable odor of the sea, while it is at the same time the best purifier ever suggested. Tested by the usual solutions and papers, it has been found to be a most active ozonizing method.

Jaborandi in Kidney Affections.

In the course of a clinical lecture on a case of chronic parenchymatous nephritis, delivered in the Philadelphia Hospital, and published in the Medical Record, of August 16th, Dr. James Tyson spoke in terms of praise of the effects of jaborandi in such cases. His method of employing it was as follows:

To an infusion of two drachms of the powdered leaves, a pint of hot water is added. Of this one-half is first injected into the bowel, the remainder in half an hour if sweating does not occur earlier. The lower bowel is very tolerant of the drug, and the stomach is thus saved. In this case the sweat was most successful. Not only were the bed clothes saturated, but large amounts of water came from the mouth. After this single sweating the dropsy diminished more rapidly; the urine increasing in quantity.

In regard to other means of giving jaborandi. When patients are comatose or in convulsions, it must either be given by injection or hypodermically in the form of the active principle, pilocarpin. One-fourth to one-half a grain will usually produce the desired result.

Phosphorus in Diabetes.

The introduction of the gelatine capsule has permitted a much more extensive therapeutic use of phosphorus than was possible when it could be administered only in the form of a pill or solution. One of the latter uses to which it has been put is in the treatment of diabetes, a Dr. Travignot having claimed in Le Progrés Medicale, that he had observed excellent results to follow its exhibition in this affection. During its use he allowed the patient to indulge in the ordinary articles of diet, and notwithstanding the non-restriction of saccharine or amylaceous food, the amount of sugar in the urine diminished gradually. He gave the drug in the form of phosphorated oil, in capsules, and gave one-sixtieth of a grain from two to six times daily with the food. There are on the market some very beautiful preparations of soft capsules, which are so admirably adapted to this method of administering phosphorus as to place the remedy conveniently within the reach of any physician who may wish to try it.

Book Reviews and Notices.

The Popular Science Monthly for October, 1884, is on our table. It is conducted by E. L. & W. J. Youmans.
New York: D. Appleton & Co. 1, 3 and 5 Bond St.
For sale by all the Booksellers of Detroit.

This standard monthly has reached its 25th vol., which this number closes, a fact of itself that proves its acceptability to scientific readers.

Among the many articles of interest and merit we find an address in full of Lord Rayleigh, president of the British association for the advancement of science, delivered in Montreal, Aug. 27th, of this year. We were of these who had the pleasure, as a member of that distinguished body, to hear the address, and we must say it was received by the distinguished audience who were the listeners, with the greatest applause and satisfaction. It should be read to be appreciated. This number also contains a sketch of Lord Rayleigh, with his portrait for the frontispiece. This latter does not, in our opinion, do him justice, and conveys to the reader an erroneous idea of the man. The outline of the features are, however, tolerably correct, and as such will give the readers an impression of his facial appearance.

Instead of the stern appearing man, the artist would lead us to believe, he has on the contrary, a mild expression, combined with firmness. His skin fair, with light sandy whiskers and mustache. Not heavy in weight, and medium in stature. Nevertheless, to the observer he conveys the idea of intellectuality, and as president, he was prompt in conducting the duties of his office. To an American observer the impression he made was most favorable.

An article, by Francis J. Shepherd, on the significance of human anomalies, is a valuable one and of more than passing interest. We can only allude to it.

Its literary notices are valuable, giving the reader an insight into the new works lately issued, and serving to him a guide as to their merits.

As we have said before in noticing the Popular Science Monthly, it is a first-class publication, and the only regret we have lies in the fact that we are not the owners of a complete set for our library purposes.

The National Dispensatory, containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines, including those recognized in the Pharmacopœias of the United States, Great Britain and Germany. With numerous refer-

ences to the French Codex. By Alfred Stillé, M. D., LL. D., Professor Emeritus of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Third edition, thoroughly revised, with numerous additions. With three hundred and eleven illustrations.
Philadelphia: Henry C. Lea's Son & Co., 1884.
Detroit: Phillips & Hunt.

The first edition of this valuable book met our approval. The second did the same. This, the third, surpasses both the former, from the fact that it is up to the times, and contains all and everything that is of use, and can be made available for the physician in his combat between life and death. It is for this purpose that remedial agents are of any particular value. Were there no disease, there would be no use for physicians or of remedial agents. The fact is otherwise. There is a departure from the healthy standard, and a necessity arises to counteract this departure, and means are necessary to do it. The work before us furnishes the physician with these means; gives us their power, their history, and how they should be used, and how to make them. This edition of the National Dispensatory adds to the physician's armamentum, and furnishes him with more perfect missiles against the common enemy of man—death. The THERAPEUTIC GAZETTE has on two previous occasions commended to its best ability, the National Dispensatory. The edition before us is in advance of its predecessors—why and wherein, we have not space to explain. Such, however, is the fact, and we know our readers will have confidence in what we say. It is handsomely issued by the publishers, in clear type, good paper and good binding, making a royal volume of over 1,155 pages, with a full index of therapeutics and a general one. Upon a critical examination of this valuable work we can find no reason to change our favorable opinion heretofore expressed, and hence we take further pleasure in commending it to our readers and the medical profession at large.

Diphtheria, Croup, etc., or the Membranous Diseases, their Nature, History, Causes and Treatment, with a Review of all prevailing Theories and Practice of the Medical Profession. Also, a Delineation of the new Chloral Hydrate Method of treating the same, its superior success, and its title to be considered a specific. By C. B. Galentin, M. D.
New York: J. H. Vail & Co., 1884.
Detroit: J. McFarlane.

In medicine a specific is a remedial agent that never fails to cure. An experience of nearly 35 years has failed to demonstrate any such certainty. Popularly speaking, the word *specific* is the language of quacks, and the leading word upon patent medicine bottles, whether liquid or solid. The nearest specifics we can call to mind are sulphur in scabies and anæsthetics for pain, and yet these may fail.

The author recognizes the fact that his announcement may be received with credulity, but believes it (chloral hydrate) will stand upon its own merits. His theory of application rests upon its aplastic properties, or efficacy in antagonizing in the blood the tendency to part with its fibrine.

If such be the fact, the author has some show for his claim, but his chapter on chloral treatment does not seem to bear him out. Other combinations have to enter into the prescription that have some merits of their own. Nevertheless he is entitled to much merit for his treatment of the subject of diphtheria, the book being a very good monograph. We see no reason why he should decry the use of iron and chlorate of potassa, evidently for the purpose of extolling the chloral hydrate. We are aware of its being tried in this vicinity, but without the success of the author. On the whole, there is little to condemn and much to write in favor of in the book. We have no desire to say aught that would prevent the use of any remedy that claims to have power over such a devastating disease as diphtheria.

Diseases of the Throat and Nose, including the Pharynx, Larynx, Trachea, Œsophagus, Nose, and Naso-Pharynx. By Morell Mackenzie, M. D., London, Consulting Physician to the Hospital for Diseases of the Throat, Lecturer on Diseases of the Throat at the London Hospital Medical College, and Corresponding Member of the Imperial Royal Society of Physicians, Vienna. Vol. II.—Diseases of the Œsophagus, Nose, and Naso-Pharynx. With index of authors and formulæ for topical remedies. Illustrated. Price, cloth, two vols., $6.00; leather, two vols., $7.50; or they may be had separately, cloth, $4.00; leather, $5.00.
Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street.
Detroit: J. McFarlane.

The first volume of this valuable work on the subject upon which it treats was issued in 1880, and was based partly on the courses of lectures which the author had annually delivered at the London Hospital Medical College, and partly on his essay on diseases of the throat, to which the Jacksonian prize was awarded by the Royal College of Surgeons, England.

It has been a matter of sincere regret that the second volume did not sooner follow the first. We have been one of those who so regretted, so much were we pleased with the first. The second volume more than confirms us of the value of the work. We find ourselves in accord with the leading journals of both Europe and America. The almost unanimous opinion is in its favor. The contents explain its scope, and our space does not permit of quotations, which we would be pleased to give. We can only say to our readers and those interested in the subject of which it treats, get the book and study it for yourselves. It is just what is wanted on the subject, and as such we commend it.

Materia Medica and Therapeutics. An introduction to the rational treatment of disease. By J. Mitchell Bruce, M. A. Aberd., M. D. Lond., Fellow of the Royal College of Physicians, Physician and Lecturer on Materia Medica and Therapeutics, Charing Cross Hospital; Assistant Physician to the Hospital for Consumption, Brompton.
Philadelphia: Henry C. Lea's Son & Co., 1884.
Detroit: Phillips & Hunt.

This is a manual for the use of students, and perhaps contains on the different subjects that constitute the materia medica as much as the student can well remember during his pupilage. The author claims for it "that it is chiefly therapeutical in its scope, and is intended to be a rational guide to both the student and practitioner of medicine in the treatment of disease, care being taken not to sacrifice the materia medica." From personal experience students' manuals of any kind are not in favor with us; they are virtually abridgments of the departments of medicine they represent, and are not calculated to expand the student's ideas, or to cause him to realize the wide domain of the art and science of medicine which he is commencing to learn. Yet such is the fashion that every professor must have his manual, his students are expected, if not required, to have

them, and a dwarfed intellect is the product of their possession. If students are to have them, then this one of Bruce's can be safely recommended to them. The subjects are practically arranged. Sufficient is given to safely identify each article from another, and their values as therapeutic agents, when indicated how to be prepared and administered, are forcibly expressed. A full index closes the volume.

Text-Book of Medical Jurisprudence and Toxicology. By John C. Reese, M. D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, Vice-President of the Medical Jurisprudence Society of Philadelphia, Physician to St. Joseph's Hospital, Member of the College of Physicians of Philadelphia, Corresponding Member of the New York Medico-Legal Society.

Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street, 1884.

Detroit: J. McFarlane.

This is a text-book written more particularly to meet the wants of students of legal medicine. Most of the works on this subject are tomes too expensive for either students or physicians of modest means. This book of Dr. Reese's meets this want and furnishes that information. The essentials of the science of medical jurisprudence are fully explained, those of practical importance being given most prominence. The subject of toxicology occupies considerable space on account of its great importance, and the chapter on insanity contains nearly all, if not all, the essential medico-legal points pertaining thereto.

The book is written in a most agreeable style, and printed on clear white paper with a pleasant, readable type. A full index completes the volume.

The work is entitled to a favorable reception, and we do not hesitate so to do. Price in cloth, $4.00; sheep, $5.00.

The Formation of Poisons by Micro-Organisms. A biological study of the germ theory of disease. By G. V. Black, M. D., D. D. S. Price, $1.50.

Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street.

Detroit: J. McFarlane.

The germ theory of disease at the present time occupies the most prominent place in medical science, and any new information that can be had is seized upon with more than usual avidity. But little has yet reached perfection, and the doubting Thomases compel the theorists to demonstrate their assertions by solid facts. This work is the substance of a course of lectures delivered before the students of the Chicago College of Dental Surgery, the first three being devoted to the history of the subject, and the last four being for the purpose of showing "why these things are so." The title has a tendency to mislead and disappoint the reader, and it is not until he reaches the last chapter can he learn what the author means by poisons. In this the last should be first, for the better comprehension of the author's intentions. On the whole, it is a convenient book for the library, and should be a component part of every medical one.

Ziemssen's Motor Points of the Human Body. A guide to localized electrization. By Herbert Tibbitts, M. D. With the compliments of the publishers.

New York: J. H. Vail & Co., 21 Astor Place and 142 8th street.

Detroit: J. McFarlane.

These are plates on which are represented the particular points where to apply electricity to affect parts implicated by disease. They are divided into the head and neck, the head and trunk, the superior extremity, and the inferior extremity. The names of the muscles and nerves are given, and the points at which they can be most readily reached. For wood-cuts they are neatly executed. To those engaged in electrical practice, and also to those desirous of applying it who have become rusty in their anatomy, they are of essential value, and to such we fully commend them.

Quiz Compends, No. 10. A Compend of Organic and Medical Chemistry, including Urinary Analyses and the Examination of Water and Food. By Henry Leffmann, M. D., D. D. S., Professor of Chemistry and Metallurgy in the Pennsylvania College of Dental Surgery, and of Clinical Chemistry and Hygiene in the Philadelphia Polyclinic. Price, $1.00; interlined, $1.25.

Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street.

Detroit: J. McFarlane.

This is a very useful little work; contains much information in a small space, and particularly that part which relates to animal chemistry. Full information is given how to analyze the urine, bile, pus, etc., and gives some idea of sanitary chemistry, a science now becoming of practical utility.

Visions of Fancy. A poetical work By N. M. Baskett, M. D., Moberly, Mo.

St. Louis, Mo.: Commercial Printing Co., 405 North 3d street.

It is not often that the physician turns poet or novelist, but here we have Dr. Baskett writing a volume of poetry, and Dr. Hammond, ex-Surgeon-General, U. S. A., writing a novel. For ourselves, we are such a poor judge of poetry that to attempt to criticize or review, we should tread on dangerous ground. We, therefore, presume it is all right, and refer the volume to our readers.

Medical Directory of Philadelphia, for 1884. Edited by Samuel B. Hoppin, M. D.

Philadelpaia: P. Blakiston, Son & Co.

This, a handsome volume of upwards of 200 12mo. pages, bound in flexible cover, with red edges. It contains an alphabetical and a street list of physicians, dentists, druggists veterinarians and nurses, with their addresses in each instance, as also a directory of the various eleemosynary institutions of a medical nature. It is a very complete work of its kind, and a model for other cities to copy.

The Wife of Monte Cristo. Being the continuation of Alexander Dumas' celebrated novel of "The Count of Monte Cristo." Morocco, $1.25; cloth, 75 cents. Comps. of the publishers.

Philadelphia: T. B. Peterson & Brothers, publishers.

The book is said to be a literary marvel, to the which we fully accede, and the only way our readers can verify the statement is to purchase and read it.

ANNOUNCEMENTS.

McGill University Annual Calendar. Faculty of Medicine. 52d session. Term begins Oct. 1st, 1884, and continues six months.

University of Bishop's College, Montreal, Med. Dept. Term begins 1st Oct., 1884.

Medical College of Virginia, Richmond. Course begins Oct. 1st, 1884.

Louisville Medical College, Louisville, Ky. Term begins Oct. 1st, 1884.

College Physicians and Surgeons, Boston, Mass. Term begins second Wednesday in Oct., 1884.

Therapeutic Progress.

Methods of Therapeutic Research.—This is the first occasion on which our association has had a special section devoted to therapeutics. I could have wished, for your sakes as well as the sake of the subject, that the honor of inaugurating such a section had fallen into other and better hands. When asked to occupy this chair. I accepted the honor with some hesitation; and I now crave your indulgence in addressing to you a few introductory remarks.

That a therapeutic section affords much scope for work, it is not necessary for me to point out; indeed, the wonder is that such a section was not formed sooner. Now that it is formed, I hope that our meeting in Belfast may be the first of a long series of annual records of useful and good work.

The subject of our section is one that may be dealt with either from the scientific or from the practical side. It seems to me that in an association such as this, which is scientific in its essence and practical in its aims, and which is composed of men actively engaged in the busy duties of a professional life, we should try to combine science and practice. While jealously maintaining our scientific characters, and our right to take equal rank with the other and older sections which are meetimg around us, we should endeavor to make our reports not only an useful record of work done in the science of pharmacology, but a practical exposition of the advances which, year by year, are made in practical therapeutics, and in (what after all is at once our highest aim and the ultimate end of all our research) our knowledge of the means of dealing with diseased processes, of alleviating human suffering, and prolonging human life.

Under the head of therapeutics are included all methods of treating disease. There is no disease whose treatment does not come within the scope of our section; and no method of treatment which it does come within our province to discuss. The field is a wide one, and affords unlimited scope for observation; and if the members of this association devote themselves to it, each doing his utmost to advance our knowledge of some particular disease, the records of this section are likely to occupy an honored place in the literature of our profession. We can do a great deal if we are careful to be thoçough in our work, and to carry on our researches in the proper way.

There are various means of therapeutic research, various methods by which the work of our section can be done, and its objects advanced. The chief of these are:

I. Experiments on the lower animals;

II. Statistical observation of the results of treatment;

III. Individual observation at the bedside.

1. By experiments on the lower animals, much has been done in the past, and much is likely to be done in the future; but not, I fear, by us, at least not at present, for from this wide and promising field of research we are debarred by the action of our legislature; but, thank God, gentlemen, science may not be thwarted or have its advance obstructed by short-sighted and hysterical legislation. Science belongs to no country and no nationality. Though Parliament may cut us off from an important means of research, and prevent the countrymen of Harvey, of Bell, and of Jenner from carrying on researches which in the past have led to such important results, it cannot prevent us from reaping the benefit of the observations of our brethren in other countries; for, amid all the outcry that is being made in this country against this method of research, it is in other countries being steadily carried on, and with results which will one day silence its opponents, and shame our legislators into retracing their hasty steps, and according to us that liberty which we never abused. Even as I address you, Pasteur proclaims aloud to the world, and with every show of reason, that by this means of research he has found an antidote for hydrophobia—the most horrid and agonising ailment from which man can suffer. Will those who agitate and declaim against this method of research choose to die of that disease, if they happen to get it, rather than take advantage of Pasteur's discovery? I wot not. I doubt not that in time the march of events, and the force of a better opinion, will lead to the rescinding of the Act which cuts off from pharmacologists in this country this important means of research.

II. The second method to which I have referred—statistical observation—has been and is still a very popular one in this country. England, indeed, is the home of this method of observation as applied to therapeutic research; and there is scarcely an important question in the practical treatment of disease whicd has not had this method brought to bear upon it.

Of all the methods of research, this is the crudest and most unscientific, the most open to inaccuracy and error, and, as a natural consequence, that which has been least fruitful in good results; the barrenness of its results being due to its inherent weakness, and to the impossibility of accomodating such a crude way of handling a subject to the delicate requirements of scientific research. What we require in a scientific investigation into the treatment of a disease are:

1. Careful and accurate observation of all its symptoms, from day to day, during its whole course;

2. A statement of the constitutional peculiarities of the patient;

3. A detailed account of the mode of application of the method of treatment under consideration, and of the modifications introduced from time to time;

4. An accurate account of the course and duration of the malady under such treatment, and a contrast between this and its course and duration under other methods of treatment.

In addition, we should have, if possible, (1) a theoretical explanation of the mode of production of the diseased process whose course we claim to arrest or modify; and (2) some explanation of the mode of action of our remedy.

Such are the requirements of a properly conducted therapeutic research. In the statistical method these requirements are unattainable. There is no possibility of accurate record of symptoms; varying degree of severity cannot be indicated; constitutional peculiarities cannot be allowed for; variations in the dose of the remedy and mode of application of the treatment cannot be accurately represented. Statistics are nothing but the most meagre details of masses of cases treated probably by different men, in which no information is given beyond the barest record of sex, age, duration, result, and from which, as a rule, it is impossible to gather any information which can be of use in practice.

Of what use, for instance, is it to tell me that so many cases of fever have been treated by stimulants, unless I am also told something of the patient's constitution and the state of health prior to the attack, of the condition of the heart and pulse, of the stage of the illness at which the cases came under notice, of their capacity to take nourishment, of the amount of sleep that was got; unless, in short, I get an idea of their condition both before and during the fever, which no statistical statement can convey?

From such a crude method of research it is not likely that any useful results could be got; and as a matter of fact, no such results have been got. Of all the advances which have been made in practical medicine (and they are great and many), I cannot recall one which owes anything to statistics. I cannot mention the case of a single disease in which statistics have inaugurated a better mode of treatment. I can recall several in which they helped to introduce elements of confusion, to give support to methods of treatment which have ultimately had to be abandoned as useless or even injurious, and to

delay the general acceptance of others whose superiority has ultimately been recognised and acted upon. The professional literature of the last century abounds in statistics, meant to prove that fevers and acute inflamations were best treated by bleeding; but later experience showed that this treatment was injurious, and it had to be abandoned. More recently, masses of statistics have been advanced to demonstrate the power of alkalies to control the course of acute rheumatism; and, up to within the last few years, we all accepted these statistics. Like a bomb-shell in our midst came the bold assertion of Sir William Gull and Dr. Sutton, that alkalies are of no practical use in this disease, and that mint-water does as much good. After we had recovered from our first feeling of surprise, we felt that Sir William Gull and Dr. Sutton were quite right, that we had been living in a sort of fool's paradise on this question, that we had attached undue importance to statistical statements, and, accepting them without a sufficient examination of their value, had been led astray by them.

I do not mean to say that statistics are altogether valueless, and should have no place in medicine; but I do say that *as a means of therapeutic research* they are not only valueless, but have been in the past positively misleading. Statistics can come usefully into play only when we wish to demonstrate results which have already been proved by individual observation; that is their field, and to that they ought to be limited. They are often ready means of demonstrating various points in the natural history of a disease; but they have no place in therapeutic research.

It is not without reason, gentlemen, that I thus, at the inauguration of a therapeutic section, introduce this caution and warning against appealing to statistics during the course of inquiry into a therapeutic question. The danger is a real and positive one; for at this moment, in various fields of research, they are being appealed to at a time when they can be of no practical service, and in a manner which far from elucidating the point at issue, can scarcely fail to introduce elements of confusion, uncertainty, and even error.

Let me illustrate this by a reference to one or two special cases—cases with which you are all familiar.

In the field of medical inquiry as it comes within the scope of our section—nay, I may say, in the whole field of practical medicine—there are no two questions of more importance, and no two which have been more prominently before the profession of late years than the salicyl treatment of acute rheumatism, and the treatment of typhoid fever by the cold bath.

You all know how the treatment of rheumatic fever has been revolutionised by the salicyl compounds. In the history of therapeutics, there is probably no instance in which a new method of treatment has had its advantages so rapidly and universally recognised. In your experience you know, at least those of you who have given the remedy in adequate doses know, that under this treatment the duration of fever and pain in an uncomplicated case of acute rheumatism is a matter of hours rather than days, and you enter on the treatment of such a case with the certainty of being able to rapidly subdue the symptoms and cure the disease. The results of the earlier observers were so remarkable that they naturally created a feeling of scepticism as to their accuracy; and no wonder, for it was rather startling to be told that we could cut short in twenty-four hours a disease whose natural duration, under the best possible treatment, had been measured by weeks. But further observation tended only to confirm this; and within a year of its introduction this method of treating acute rheumatism was all but universally adopted, and the statements of the original observers confirmed in all quarters of the world. All this was done without any aid from statistics, without reference to them. But even here, with every journal in England, America, France, and Germany filled with corroborative evidence and illustrative cases—and before there has been time to properly consider and digest the mass of evidence before us—we are obliged to wade through elaborate statistical statements which, favorable though they are in the main, are quite premature, and can serve no useful purpose. In this question, the time for statistics has not yet come; and their premature employment serve only to unduly hamper the literature of the question, and to give an inadequate, and even misleading, idea both of the mode of application of this treatment, and of the results got from it. The salicyl treatment of acute rheumatism does not consist simply in giving salicin and salicylic acid; it consists in giving one of these, in large and frequent doses; but, in the statistics hitherto published, are included many cases in which the dose given was so inadequate, that the disease was practically allowed to run its natural course; and yet these cases are instanced as cases treated with salicin or salicylic acid, and we are asked to accept these statistics as a demonstration and embodiment of the results of that treatment.

Statistics so compiled are from their birth impregnated with error, and, as a contribution of the literature of the question, are worse than useless; they are positively misleading.

When the method of giving the salicyl compounds, in large and frequent doses—of giving as much as you can, instead of giving as little as you can—has been fully accepted and acted upon; and when the history of the salicyl treatment comes to be written by our sons, statistics may prove a ready and useful means of demonstration. Meantime, the history is being made, and here statistics have no place. The question has not yet passed away from the field of therapeutic research—a field from which statistics should be rigidly excluded.

The other instance which I have chosen from the field of medical research, is the treatment of typhoid fever by the cold bath—one of the burning questions of the day. As this subject will necessarily come up to-morrow, in the discussion of antipyretics, I shall be careful not to forestall anything that may be said then, on either side of the question.

The treatment of fevere by cold is an old practice, which has been revived of late years. Its resuscitation is mainly due to Brand, a German army-surgeon, who has published some very remarkable statistics to show that, by this treatment, the duration of, and mortality from, typhoid fever can be greatly lessened; and that, if begun sufficiently early, by the third day, the course of the disease may be arrested.

Such a remarkable statement cannot be accepted without a complete examination of the facts on which it is founded; and, at the very commencement, we are met by an objection which shakes all our confidence in the accuracy of Brand's statements, and in his reliability as an observer: for, when he tells us that the best results are got in cases in which the treatment is commenced by the third day, the questions naturally arise in our minds, how does Brand come to see typhoid fever at so early a period of the illness? and, having seen it, how does he diagnose it? I am quite sure that, in this country, not one case in ten thousand is ever seen at so early a period. I am equally sure that no physician would venture to make a diagnosis of typhoid fever at that early stage of a febrile attack. So slight are the early symptoms, and so insidious the onset of the malady, that the patient rarely applies for advice before the sixth or seventh day; and the features characteristic of the disease are so tardily developed that a diagnosis can rarely be made before the end of the first week. These are established facts in the history of typhoid fever; and when we find Brand coming forward with statistics in which these facts are ignored, we are bound to receive his statements with all reserve.

Let me tell you of two cases which came under my notice last week. A gentleman had been ailing for a couple of days; he had headache, malaise, some aching in the limbs, and loss of appetite; his pulse was 100, his temperature 102.2°; there was no local inflammatory mischief, no apparent cause for the rise of temperature. I sent him to bed, gave him a

light diet, and half an ounce of liquor ammoniæ acetatis every two hours. On the following day (the fourth of his illness) the temperature was 99.6°. On the next day it was normal, and he was well. Brand would have told him that he had typhoid fever, would have put him in a cold bath, and included the case in his statistics.

A few days ago, I saw a boy, aged 15, on the third day of an illness which commenced with headache and a feeling of cold. His pulse was 104, and his temperature 102.3°. There were no local symptoms. He was put to bed, and given a teaspoonful of Mindererus' spirits every two hours. The next day his temperature was 100°, and on the following day normal. Brand would have treated the case heroically hy the cold bath, would have got him well as quickly as I did, would have given the credit to cold bath, and included the cease in his statistics.

These are cases of which we all see dozens every year. I instance these two only because they occurred last week. In civil life, and especially among the poorer classes, the majority of such cases recover without ever being seen by the medical man. In military practice, they are all seen and treated. Brand, as a military surgeom, has seen a great many of them, and, unfortunaiely, has included them in his statistics as cases of typhoid. What reliance can be placed on the statements of a man who makes such a mistake as that? If any English military surgeon had come foward with such statements and such statistics, they would not have received a hundredth part of the notice which has been accorded to Brand's, and would long ago have been set aside by the profession in this country as worthless; they are none the less worthless because they are of German origin.

On the practical results of cold bath treatment of typhoid fever, I have at present nothing to say. I wish only to indicate the misleading nature of Brand's statistics, and point them out to you as another and prominent instance of how little reliance can be placed on statistics as a means of therapeutic research.

One more instance let me give you, from the domain of surgery. Of all the advances which have been made in modern surgery, there is none to be compared in the immensity of its results, none which has been such a boon to humanity, as that antiseptic system of treatment with which the name of Sir Joseph Lister is associated. What does it owe to statistics? Nothing, absolutely nothing; and Sir Joseph Lister has wisely abstained from wasting time in the collection of statistical details which could be of no use, as they could not demonstrate more satisfactorily than has been already demonstrated, the extent of the benefits derived from the antiseptic system. But his opponents have endeavored to show by statistics that as good results were got without the use of antiseptics, that Sir Joseph Lister's precautions were uncalled for, and his results no better than those got before his treatment was introduced. But every impartial observer knows that he is right, and they are wrong; that, under the antiseptic treatment, as taught and carried out by Sir Joseph Lister, lives can be saved which, but for it, would be lost; and the attempt to show the reverse by statistics serves only to demonstrate that which I wish to impress upon you, that, of all our guides, statistics are the least reliable—of all means of therapeutic re-research, that on which least dependence can be placed.

III. The third mode of research, individual observation, is that on which we have to rely; it is that by means of which the most important advances have been made in the past; it is that, too, by which all methods of treatment must be tested, and on the results of which their adoption or rejection must depend.

There is immense scope for us in this field—ample to occupy us for many a year to come. There is scarcely a disease whose treatment might not be improved; scarcely a therapeutic question which does not want some light thrown upon it, and the number of such questions grows rather than diminishes.

I would instance only one vast field which has been opened up of late years. It is within our own time that what is called the germ-theory of disease has become an accepted tenet in medicine. According to this theory, many of the most important diseases to which man is liable are due to the propagation in his system of organisms introduced into it from without, and having no share in its normal economy.

The acceptance of this theory opens up a vast territory in therapeutics. At present, all that we can do with such diseases as typhus and typhoid fevers, and the specific fevers generally, is to guide the patient through them, to keep him alive till the disease has run its course—in other words, till the organism has ceased to be reproduced.

But if the germ-theory be correct—and every day it becomes more and more securely established—if it be the case that diseases result from the propagation of organisms in the system, the true way to prevent and arrest the course of maladies thus produced is, (1) either to render the system insusceptible to the action of these poisons, to produce in it such a change as will make it, to that special organism, a barren soil in which it cannot grow; or (2) to destroy the organism in the system.

That the system may be rendered insusceptible to the action of such poisons as those of the specific fevers, is an established fact in the history of these ailments: for, as a rule, one attack confers immunity from a second. If this immunity, this insusceptibility to the action of the poisons of these diseases which naturally results from an attack of them, could be induced artificially by other and safer means, we could establish a general immunity against the action of the poisons of the specific fevers which would at once enormously diminish their prevalence, and might, in time, lead to their extirpation. This is not mere empty speculation, for the thing has already been done in the case of small-pox: and it is by acting on this idea, or a modification of it, that Pasteur has been able, recently, to tell us that hydrophobia has been robbed of its horrors, and the bite of a mad-dog put on the same level as that of a healthy one.

If we could find among the lower animals a disease which bore to measles the same relation that vaccinia does to small-pox, the induction of that disease in man would probably render him insusceptible to the action of the measles-poison. With all the specific fevers, we might thus be able to induce such modified attacks as would establish a general immunity without causing serious illness.

In the range of practical medicine there is no more promising field of inquiry than this; none which might lead to such splendid results, or so tend to lessen the ravages of disease and to save human lives. But it is obviously an inquiry which can be carried on only by experiments on the lower animals; and here our government—that power which is created by and for the people, and which exists only for the the people's benefit—steps in and says: "No, you shall not make such experiments; let the cattle-plague carry off our cattle by thousands, let the human race be decimated by pestilence, let our children die in scores of scarlet fever, diphtheria, and measles, but you shall not, even to save them, touch our cats or dogs; these must remain sacred." and so, for the present, we must abandon this hopeful field of inquiry.

There remains the other possibility—the destruction of the organism in the system. This, too, is a hopeful field of research, and it is open to us. It has, indeed, been already entered on, and a new group of remedies has been suggested and given a local status as therapeutic agents under the name of germicides. Our knowledge of these agencies is at present very limited; but we may reasonably hope that in time, as we gain in our knowledge of individual germs and their conditions of life, we may also learn how to destroy them in the system. There are some, and there

may be many, germicides which, while fatal to germs, are not injurious to the human body. If we could find one which was fatal to the germ of typhoid fever, but which could be taken with impunity by man, that germicide would arrest the course of typhoid fever, if given sufficiently early, before the local lesion had made much headway; and so with diphtheria, scarlatina, and all the diseases to which the germ-theory applies.

As each germ has its own special life-history, its own peculiar conditions of life, under which alone it can flourish, and its own special action on the system, it is probable, too, that each will have its own special destructive agency. An agency which destroyed the typhoid germ might have no action on that of typhus or that of scarlatina.

You are all aware that of late years much evidence has been advanced to show that the poison of the malarial fevers is an organism which is propagated in the system. It is probably by its destructive action on this organism that quinine (a recognised germicide) exercises its curative action in intermittent and remittent fevers. I believe, and have elsewhere given my reasons for my belief, that it is the same with rheumatic fever and the salicyl compounds—that the poison is malarial, and that these agencies (also recognised germicides) owe their remarkable effects in that disease to their destructive action on that poison.

Be that as it may, the recognition of the existence of such agencies as germicides, and the possibility of dealing with diseased processes, and actually curing disease, by agencies which no not necessarily have any action on the system, which act, not on the sufferer, but on that which makes him suffer,—the recognition of such a possibility marks an epoch in therapeutics, and opens up to us a vast and interesting field of research, on which I hope we shall not be slow to enter, and from which great results may not unreasonably be looked for.—Address of T. J. Mac Lagan, M. D., before Section on Pharmacology and Therapeutics, British Medical Association.

Cystine in the Urine Successfully Treated by Large Doses of Carbonate of Ammonia.—Cystine is one of the most persistent of urinary deposits. After it has once appeared it may be produced, and in considerable quantity, over a period of twenty years or more, or its production may only cease with life. It is among the least common among urinary deposits, and usually its presence is not associated with any symptoms more serious or definite than malaise, a feeling of weakness, fatigue, or exhaustion, with depressed or very low spirits. One of the most remarkable cases of cystine deposit which I ever saw came under my notice many years ago, and has been under my observation for fifteen years or more. During part of this time I saw the patient very frequently, and made many examinations of the urine, of the deposit, and of the calculi, which he passed in considerable numbers.

The patient (E. H. O——) was a fairly healthy-looking man of thirty, 5 ft. 5½ in. in height, weighing 9 st. 6 lb., who was by trade a packer, an occupation involving pretty hard work and long hours. For four years before he came to me he had suffered more or less from lumbar pain and discomfort about the thighs, especially on exertion, and he often felt weak and low. He sometimes had to walk with a stick and had had to give up work now and then for a week or two at a time. About two years after the first commencement of the symptoms he suffered from from a fixed pain in the left groin, and soon after several stones were passed, sometimes to the number of twelve or more at once. One of the calculi, however, was so large that it remained in the bladder, and Mr. Coulson had to crush it.

I put the patient on carbonate of ammonia and told him to increase the dose gradually until it amounted to about fifty grains a day. He found the remedy to agree with him so well that he soon exceeded this quantity, and for twelve months he took as much as fifty-five grains daily on the average, on some days consuming much more, on others considerably less, than this amount. In this time he did not pass as many calculi as before he had passed in a single month, and his weight increased to 9 st. 11 lb. In the next year he took about thirty-five grains of carbonate of ammonia per diem, and in the following only an average of about twenty grains a day. This patient's family history was not very satisfactory. His mother died at the age of fifty-two of phthisis, and two sisters died at the age of twenty-five of the same disease. He did not look a strong man, and the muscles of the arms and legs were below the average size and prominence. When a young man he used to take violent exercise and rowed in races. The quantity of urine passed was generally about the average, and never exceeded three pints. Every specimen that passed during a period extending over at least five years, he feels sure contained cystine. Afterwards the cystine was very frequently detected in considerable quantity. The crystals could be seen in the urine immediately after it was passed as small sparkling grains. The ammonia not only diminished the formation of the cystine, but the patient found that while he was taking it his bowels acted freely, and he never required an aperient, although previously he had been much troubled by obstinate constipation. When the ammonia was not taken he says he did not feel as well as when he was taking it. He found no inconvenience from taking these large doses of carbonate of ammonia, and soon became so accustomed to the taste that he did not object to it in the least. I have seen this patient at intervals during the last few years, and although cystine in small quantities was generally present in the urine, it gave him no inconvenience, and no calculi seem to have been formed for the last three or four years. In this case, then, cystine has been found in large or small quantity during a period of at least eighteen years, and for the first five or six years of this time hundreds of cystine calculi were passed, the largest being about three-eights of an inch in diameter, the smallest not larger than the head of a very small pin. The cystine crystals formed a visible whitish deposit, which varied much in quantity, even from day to day, but sometimes formed a sediment.

Another case was that of a gentleman about fifty, who had suffered from abundant cystine deposit for two years before I saw him, and had passed seven or eight renal calculi, some of them beautifully crystalline, and entirely composed of cystine. This patient took fifty grains of carbonate of ammonia dissolved in two ounces of distilled water three times a day after a meal, for upwards of two years without any inconvenience, and during this time he had not even once required an aperient. If he gave up the ammonia he did not feel "up to the mark." As the amount of the ammonia seemed very large in proportion to the water in which it was dissolved, I had twenty-five grains of Howard's volcanic carbonate of ammonia dissolved in an ounce of distilled water, and found that, although it tasted very strongly, it was not caustic. On inquiry, Mr. D—— informed me it was only gradually that he reached this degree of concentration, but that he experienced no difficulty in taking it. He took it immediately after a meal—"on an empty stomach it produced nausea." For three years, with scarcely an intermission, 1050 grains of carbonate of ammonia were taken per week. The cystine deposit ceased during the last year of taking the medicine, and three years have now passed without its recurrence. I think, therefore, we may regard this case as really "cured" by the large doses of carbonate of ammonia.

It is to be feared that the tendency in the present day is rather to prescribe new remedies which are being continually introduced, than to select from old ones such as are known to have valuable properties, and which have been proved by long experience to be really beneficial in certain pathological conditions. Far from condemning the new because they are

new, like all who know the extreme value of such things as salicylate of soda and bromide of potassium, I am most anxious to acknowledge my gratitude to those who devote themselves to the study and the discovery of the healing properties of every substance that can possibly be of use in treatment. But, while I am desirous not to say anything that could suggest to the reader that I am condemning the new things, I would impress upon the rising generation of practitioners the importance of being careful not to neglect the old. One cannot but desire that a drug like ammonia, so valuable in many forms of disease and departures from the healthy state, should not be forgotten or laid aside. The cases of cystine deposits to which I have drawn attention, prove not only that large quantities may be taken without detriment or inconvenience, but that the use of the drug may be continued for a considerable period of time with advantage, and without the slightest derangement of any of the physiological processes being occasioned.

In our endeavors to help those who have acquired the vicious habit of consuming too much alcohol, ammonia is of great use, but it ought to be given in doses far larger than those in which it is usually prescribed. One of my patients assured me that he found ammonia very beneficial, that it relieved him of the feeling of tiredness from which he frequently suffered, and enabled him to perform hard work without getting exhausted. Not only have I found great benefit result from giving ammonia in considerable doses in many low forms of illness, but I have experienced its good effects by taking it myself. It acts very differently from any form of alcohol, although its effect upon the patient, as judged from his own sensations, appears to be somewhat similar. Though no feeling of hilarity seems to be induced by it, the lowness and depression of spirits and the tired feeling affecting the muscles, or rather the nerves and the nerve centres by which they are supplied, are often removed in the course of half an hour or less by a dose of ammonia.

The cases I have adduced are sufficient to show that ammonia may be given in much larger doses than are generally prescribed, and that it need not be diluted to the degree generally supposed to be necessary. We used to be taught that five grains or carbonate of ammonia should be dissolved in at least an ounce of water, but as one of my patients took as much as twenty-five grains per ounce, and continued this three times a day for three years, we may feel satisfied that a solution of from ten to fifteen grains per ounce may be taken without difficulty, and I have prescribed this as often as once an hour in cases where the heart's action was very feeble and a decided stimulant was evidently necessary.

The public have discovered the value of sal volatile in cases of cold-catching and many minor ailments, but ammonia, like many other substances of real value in the treatment of many departures from the health state, has lately been somewhat neglected, and is, like some other valuable remedies, in danger of being forgotten amid the multitude of new preparations which thrust themselves upon our notice, and it is, therefore, desirable that attention should be directed to its usefulness, as well as to the value of many other drugs which have been of real service to past generations of patients.—Dr. Lionel S. Beale, in *The Lancet*, Aug. 30, 1884.

Action of Certain Medicaments on the Cerebral Circulation.—Curci (lo Sperimentale, Italia Medica, Jour. de Med.), employs an experimental method, based on the estimation of the increase or diminution of the cerebral mass, as influenced by the amount of blood flowing through its vessels; if a certain medicine produces an augmentation, it is considered as producing hyperæmia, and the contrary if a diminution.

The cranium of the animal being trephined and the brain being exposed, a canula of the same diameter, and open at the two extremities, is introduced into the perforation. The free extremity is connected with a tube, which is in turn connected with a manometer of water. The whole of the apparatus must be hermetically closed and filled with fluid—the manometer with colored water, the rest, and especially the canula, with oil. The advantage of the oil is that while it bathes directly the surface of the brain, it is not absorbed, and consequently does not diminish in quantity, which eliminates a chance for error. The manometer tube is only three millimetres, which renders the changes in its level more appreciable.

It is necessary to bear in mind the fact that the efforts of the animal will of themselves influence the level of the fluid, and the operator must patiently wait until the animal becomes calm before beginning the experiments, as calmatives cannot be given.

Chloroform and ether produce a relative anæmia of the brain.

Hydrate of chloral was found to produce weaker cerebral pulsations than normal, the author considering that the blood pressure in the longitudinal sinus descended considerably under its influence. Consequently, if the diminution of the cerebral mass on the one hand, and the lowering of venous tension on the other, be considered, it follows that the blood flow diminishes, and that there is a certain degree of cerebral anæmia.

Paraldehyde. This new drug gave results identical with those of the chloral, viz., diminution of the cerebral mass, from which was deducted a diminution in the flow of blood to the brain, and consequently relative anæmia.

Therefore, chloral and paraldehyde are indicated as hypnotics in all cases where there is hyperæmia or inflammation of the brain, but their use is not justified in degeneration, atrophy, etc.

Nitrite of amyl produced a considerable increase in the cerebral pulsations, and its use in syncopes and cerebral anæmia is, consequently, justifiable.

Morphine produced an augmentation of cerebral volume and vascular tension, and is, consequently, a hyperæmiant.

Atropine produced such contradictory results as to render any positive conclusion difficult, but in a large dose a constriction of the vessels was observed, and the brain became pale and diminished in size, so that the drug was considered as an anæmiant of the brain.

Quinine had more of a tendency to produce anæmia than hyperæmia of the brain. It counteracts the hyperæmic action of morphine. Therefore, quinine is not contra-indicated in those diseases liable to cerebral hyperæmia, but its use, on the contrary, is justifiable. Quinine has been found useful in insolation, probably from its tendency to counteract hyperæmia.—*Journal of the American Medical Association*, Sept. 6, 1884.

Erysipelatous Eruption on the Face, Caused by Arnica.—Patient a baker, aged forty-two; skin white and delicate; no previous cutaneous disease; since 1870, has had two attacks of rheumatism in the small articulations.

December 4, 1883, in consequence of falling against a door-post, he sustained a slight contused wound, which bled a few drops, on the outer portion of the left superciliary ridge. He first made use of cold-water compresses, then, in order to keep down the swelling, he procured at a drug-store some tincture of arnica, which he applied several times in the course of the evening. Next day, the affected region being a good deal swollen, he went again to the druggist, who gave him a compound of bran-water and arnica tincture, probably in equal proportions.

I first saw him on December 6. The face, clean shaven with the exception of a mustache, was enormously swollen; the skin of the forehead and of the

cheek on the injured side was bright red and covered with phlyctenæ, from some of which issued an abundance of clear, lemon-colored fluid; the left eye could not be opened, and the aperture of the lids was almost hidden by the tumefaction. The rest of the face was similarly affected, but in a less degree; the redness faded away at the neck, where some small vesicles gave the skin a roughened appearance; the hairy scalp was untouched. Temperature in the axilla, 37.4° C. Pulse 70. Next day the œdema had fully extended over the right side of the face, and both eyes were completely closed. Submaxillary glands swollen on both sides. Loss of appetite. Urine scanty and high-colored.

Dec. 8. The swelling and phlyctenæ had mostly passed over to the submaxillary region and the neck; the left eye could be opened a little. Some restlessness, but no fever. Slight dysphagia, without inflammation of the pharynx.

Dec 9. General improvement; both eyes open; œdema, however, still continues.

Dec. 12. The vesicles are succeeded by yellowish scales; œdema has disappeared; patient comfortable.

Dec. 22. Skin still red; desquamation not quite completed; general condition excellent.

Treatment consisted in washing off the tincture of arnica, and applying a liniment of oil and lime-water, as in cases of burns. This gave more relief than the bran-water poultices. A saline purgative was previously administered, the tongue being somewhat foul.

The above-described affection bore a strong resemblance to facial erysipelas, in the œdema and erythema of the skin, in the abundant phlyctenæ, and in the swelling of the adjacent glands. It differed chiefly in being accompanied by complete anorexia, and in its exact localization at the contaminated points.

Other prominent features in the case where the dysphagia, caused by tension of the swollen cervical tissues, the pharynx being unaffected, and the scanty urine, of a mahogany color, like that of an icteric patient.—Cartier, *Lyon Médical, Journal of Cutaneous and Venereal Diseases*, Sept. 1884.

Camphor Inhalations in Coryza.—Dr. G. E. Dobson writes: "This very troublesome complaint has scarcely received the attention it deserves, if we take into consideration the great number of sufferers and the serious laryngeal and pulmonary diseases to which it is too often a prelude. Among the host of remedies proposed for its abortive treatment, most of which are either of doubtful value or else difficult to procure or apply, or even dangerous to use, not one can be named of which it may be said that it is at every one's command, easy of application, unattended with danger, and really effective. No excuse is, therefore, needed in introducing to the notice of the profession the following simple yet thoroughly effective mode of treatment, which in my hands has never disappointed expectation. About a drachm of camphor, coarsely powdered, or shredded with a knife, is placed in an ordinary shaving jug, which is then half filled with boiling water. The patient, having made a paper cone (out of a sheet of brown paper or an old newspaper) large enough to surround his face by its wide extremity and the mouth of the jug by its narrow end, proceeds to respire freely, at each inhalation drawing the steam into his nostrils, and at each exhalation forcing it up against the outer surface of his nose and adjoining parts of the face. A two-fold action is produced: the camphorated steam acts internally in a specific manner upon the whole extent of the mucous surfaces, and externally, produces profuse diaphoresis of the skin covering the nose and sides of the face, there acting as a derivative from the inflamed Schneiderian membrane. The jug should be surrounded by a woolen cloth in order to prevent the water cooling, or, better, if a tin shaving-can be used, a small spirit-lamp or heated iron may be placed beneath it, so as to maintain the heat of the water and the vaporisation of the camphor. The patient should continue his respirations (keeping the margins of the base of the paper cone closely applied round his face) from ten to twenty minutes, and this should be repeated three or four times in as many hours, till entire freedom from pain is experienced. Great relief is always felt even after the first application, and three or four usually effect a cure. Camphor, or some of its preparations, have, as is well known, been long in use in the treatment of colds, but the above-described method of employing it in conjunction with the vapor of water both as an internal and external application at the same time, has not, so far as I know, been previovsly brought to the notice of the profession, or if brought, has not been recognized in any general or special medical work. The mode of application is, however, all-important; but as this is neither troublesome nor otherwise unpleasant to the patient, nor are the materials difficult to procure, camphor being everywhere a household drug. I believe that those who may give this treatment a trial will find it not only a simple but also an effective remedy against coryza." —*Lancet.*

Medicinal Plants for Industrial Culture.—Baron von Mueller, in his exhaustive work,* enumerates the following medicinal plants, which are capable of being cultured in extra-tropical regions, and specifies the zones in which their growth is likely to be most successful:

1. *Yielding Herbage or Flowers.*—Achillea, Aconitum, Agave, Aletris, Aloe, Althæa, Anemone, Anthemis, Arctostaphylos, Aristolochia, Arnica, Artemisia, Atropa, Barosma, Cannabis, Cassia, Catha, Chelidonium, Chenopodium, Chrysanthemum, Cochlearia, Conium, Crocus, Cytisus, Digitalis, Duboisia, Erythroxylon, Eupatorium, Garuleum, Hagenia, Hedeoma, Hyoscyamus, Ilex, Justicia, Lactuca, Leonotis, Leyssera, Marrubium, Matricaria, Melianthus, Mentha, Menyanthes, Nepeta, Osmitopsis, Papaver, Parthenium, Pilocarpus, Polygala, Prunus, Rafnia, Ricinus, Rosmarinus, Ruta, Salvia, Sambucus, Santolina, Schkuhria, Sebæa, Selinum, Solanum, Sophora, Spigelia, Spilanthes, Swertia, Tanacetum, Tarchonanthus, Teucrium, Thuya, Thymus.

2. *Yielding Bark.*—Alstonia, Aspidosperma, Cinchona, Juglans, Pilocarpus, Salix.

3. *Yielding Roots.*—Acorus, Actæa, Althæa, Anacyclus, Archangelica, Aristolochia, Arnica, Atropa, Carex, Cephælis, Cimicifuga, Colchicum, Convolvulus, Euryangium, Gentiana, Glycyrrhiza, Helleborus, Hydrastis, Inula, Ipomœa, Krameria, Nardostachys, Panax, Periandra, Peucedanum, Pimpinella, Podophyllum, Polygala, Punica, Rafnia, Rheum, Sabbatia, Sanguinaria, Saponaria, Sassafras, Saussurea, Schoenocaulon, Scorzonera, Smilax, Smyrnium, Symphytum, Taraxacum, Urginia, Valeriana, Veratrum, Withania, Xanthorrhiza.

4. *Yielding Fruits* (or only Seeds).—Cassia, Cucumis, Cuminum, Ecballion, Fœniculum, Illicium, Mallotus, Punica, Rhamnus, Rheum Ricinus, Schoenocaulon, Smyrnium, Tamarindus, Trigonella.

Large Doses of Sulphate of Copper in the Vertigo of Meniere's Disease.—M. Charcot, at a recent clinic at *La Saltpetrière* (*Gazette des Hospitaux*), presented two cases of vertigo, with the characteristic shrill sounds, intense hissing in the ears, followed by the sensations of movement in various directions.

The first patient presented these symptoms to a very marked degree on entering the hospital; he had been under the treatment since that time, for a space of three and a half months. First the vertiginous symptoms disappeared, until now there only remains the staggering on walking, or the cerebellar vertigo,

* Select Extra-Tropical Plants, Readily Eligible for Industrial Culture or Naturalization. By Baron Ferd. von Mueller. Detroit, Michigan: George S. Davis, publisher.

which is much more difficult to overcome than cerebral vertigo. He was treated as follows: For twenty days he was given daily twelve (12) grains of sulphate of quinia. Then a suspension for ten days. For twenty-seven days the same dose, followed by a suspension of eight days. For twenty-two days the same dose, suspension of nine days. For nineteen days to date of observation the same dose.

The second case was completely relieved. This patient was a woman who was obliged to keep her bed for seven or eight years on account of the severity of these symptoms. She has been for a number of years under the same course of treasment. In 1875 she already showed marked signs of improvement—no longer having habitual vertigo, nor exacerbations, nor disordered movements, nor those sensations of falling which kept her to her bed for so long a period; but at that time she still walked with difficulty, with hesitation, and staggering like a drunken person—or like one having been deprived of the use of the legs for a number of years. Now she presents the appearance of one completely cured, walking without the slightest hesitation and with a firm step. Her health is perfect.—*Med. and Surg. Reporter.*

Thuya Occidentalis in Cancer of the Uterus.—The tincture of thuya occidentalis has been praised at different times as an efficaçious remedy for rebellious condylomata, venereal growths, etc. It has also given excellent results in cases of simple chancre.

Four years ago, J. Cheron, who had used the drug for a long time, was particularly struck by an inaugural *Thèse* by M. J. Menier. The treatment of vegetations by the internal administration of thuya occidentalis had given results which in his hands were absolutely conclusive. Cheron repeated Menier's experiments, and though he did not get such remarkable results, the curative action of the tincture in vegetations was equally well demonstrated. He found that vegetations covered with epidermis, especially those which have a semi-corneal consistence, are not affected by the internal administration of thuya, so far as their disappearance is concerned; though they do diminish in size and consistence. Vegetations developed on mucous membranes, however, disappear completely when thuya is given internally; this has been abundantly shown in a great number of cases. In a word, the epithelial hyperplasias of the vegetations yield to the internal employment of thuya, while the epidermic hyperplasias do not. As regards the use of thuya in epithelioma of the cervix, Cheron's experience with it, which has extended over several years, leads him to say that in a certain number of cases he uses the tincture internally only; in a second class he uses it externally only; and in the third class he uses it both externally and internally.—*Revue de Thérap., Medical News,* August 16, 1884.

Hyperosmic Acid in Neuralgia.—In Tübingen, as well as in Kiel, experiments have recently been made to determine the action of hyperosmic acid (*Deutsch Med. Zeit.,* July 7, 1884). This drug was first recommended in malignant tumors, into whose parenchyma the acid was injected. In both localities the result has been nil, the inflammation ensuing exerting no influence on the malignant character of the new growth. As well known, Dr. Winiwarter was the first to bring the remedy to the notice of the profession.

Dr. Neuber, in Kiel, accidently employed the hyperosmic acid in several cases of peripheral neuralgia, which had not yielded to other drugs. He reports three cases where a daily subcutaneous injection of the acid was employed. He made use of a one-per-cent. watery solution, of which from four to six drops sufficed for each injection. Selecting the locality most affected by the pain for the hypodermic application of hyperosmic acid, he found that in each of three cases of neuralgia, though they were of stubborn character and had thus far withstood every possible treatment, the effect of the acid was magical, the pain after a few applications ceasing, and in no instance returning. The injections themselves were neither very painful, nor followed by suppuration, nor accompanied by poisonous side effects.

There are many cases of superficial neuralgia which apparently are incurable until some new remedy is tried, to which they at once yield. The more physicians report such cases, the sooner will the conditions be determined, under which each anti-neuralgic remedy may be expected to act promptly.—*Medical and Surgical Reporter.*

Morphia for Sea-Sickness.—With reference to Dr. H. Bennett's article on sea-sickness, published in last week's Journal, it may be of interest to many to know that the hypodermic injection of morphia is almost invariably attended with much benefit to the sufferer. I have given it in a great many cases and found it give, at any rate, some relief for several hours always; and in a few cases the sickness has even ceased altogether from that time. In two or three instances in which I gave it as soon as the vomiting had commenced, the passengers remained well throughout the rest of the voyage, and that a rough one. I have not yet tried the use of strong coffee in the way Dr. Bennet mentions, but hope to do so soon. I have often found passengers able to retain dried toast soaked in strong tea without sugar or milk, when their stomachs have rejected everything else. Nitrite of amyl, which has been much recommended, I have found to be useless, and the taking of bromide of potassium for some days before embarking almost equally so. Dry biscuit and lemon-juice will often stay down when nothing else will. In conclusion, I may say that, after trying nearly, if not quite, all the usual remedies for sickness, I have found the hypodermic injection of from one-third to half a grain of acetate of morphia to be by far the most useful of all drugs or remedies.—Philip Vincent, M.R.C.S., L.R.C.P., L.M., Surgeon, Cunard Royal Mail Service, in the *Brit. Med. Jour.*

Chloride of Methylene.—In a memoir published a few months since Messrs. Regnauld and Villejean gave their reasons, based upon chemical analysis, for believing that the product at that time supplied to surgeons under the name of chloride of methylene was often, if not always, a simple mixture of chloroform and methylic alcohol. Subsequently, with a view of studying the subject physiologically, they prepared what they claimed to be pure chloride of methylene, the action or which was tested on dogs and other animals, comparative experiments being also carried out with chloroform. They report (*Pharmaceutical Journal*) that the results strengthened their previous belief and that the misnamed mixtures owe their properties to chloroform only. The physiological action of chloride of methylene was found to differ entirely from that of chloroform, with the exception that both compounds produced unconsciousness. The symptoms resulting from the in halation of chloride of methylene were so constant, and of such an alarming character, that the authors think its employment as an anæsthetic agent during surgical operations is out of the question, and they doubt whether it has ever been so employed. Clonic contractions of muscles, of epileptiform and choreiform kind, were the alarming symptoms observed, but such movements are by no means confined to one member of the chlorine series of anæsthetics.—*Lancet,* July 5, 1884.

Naphthaline as a Dressing.—It seems unfortunate that some of the best dressings smell the worst. Iodoform quickly perfumes (?) an entire house, and for him who prefers a different smell, naphthaline is at least a change, if not an improvement. Fischer

introduced it to the profession in 1881; and it has alternately been asserted and denied that it forms crusts and obstructs drainage, irritates the skin, is a feeble antiseptic, and favors erysipelas.

Rydygier (*Berl. klin. Woch*, April 16, 1883) reports his experience as almost entirely favorable, and accounts for the difference of opinion by differences of application. He applies it in fine powder, covers it first with gauze and cotton soaked in a solution of corrosive sublimate, and then with parchment paper, or other water proof material. Thus employed, he finds that its asserted disadvantages disappear, except that it is somewhat of an irritant, at least when mixed with the secretions of the wound; yet not to any great extent, for in a successful case of hysterectomy he applied three drachms to the wound, and several tampons in the vagina, leaving them there for seven days. A little vaseline entirely obviates the irritation.

It is free from the occasional poisonous action of carbolic acid and iodoform, and is exceedingly cheap, especially as compared with the latter.—*Medical News.*

A Simple Remedy in Diarrhœa.—In the late summer and autumn, when fruit is so abundant, any simple remedy for diarrhœa, and what is familiarly called "bowel complaint," is worth knowing and remembering. Such a one was recommended by Dr. T. E. Stellwagen several years ago in his edition of Coleman's "Dental Surgery," and more recently in the pages of one of the journals. It is simply *vinegar*, preferably pure cider vinegar. The dose is about two ounces for an adult, and should be swallowed "neat"—without admixture of water.

It may also be given to infants with excellent results. To a babe a year old a teaspoonful of moderately-diluted vinegar would be the proper dose.

Its effect is to check pain, tenesmus, and tormina at once, to relieve the chill and cramps when present, and to disseminate a feeling of warmth and comfort over the body.

Even in cases of chronic diarrhœa which have long resorted treatment, this household remedy has succeeded in checking the discharges and correcting the sub-inflammatory condition of the membranes.

We shall be glad to report any experiences, favorable, or otherwise, which our readers may have with this remedy.—*Medical and Surgical Reporter*, Aug. 16, 1884.

Internal Use of Nitrite Amyl.—In the *Brit. Med. Jour.*, July 19, 1884, Dr. J. F. Dixon calls attention to the fact that there is only slight mention in the text-books, and scarcely any reference in periodical literature, to the internal use of nitrite of amyl. Its very temporary and ephemeral action, when inhaled, has plainly caused therapeutists to cast about for an agent which produces more continuous results. He believes that, in nitrite of amyl given internally, we have a drug which meets all the requirements of cases in which it is important to lower the arterial tension, and further, that it is free from the uncertainty of action, and the sometimes dangerous results of nitro-glycerine and nitrite of sodium, which have been employed apparently as substitutes for it. He has employed it thus in cases of anginous attacks of a very severe character. One, complicated with very loud mitral systolic murmur and nightly angina; the second with an aortic systolic murmur; and the third with an irritable action, but no apparent organic lesion. The dose was 2½ minims three times in twenty-four hours; of course, seeing the case twice daily until the action of the drug was established, when a dose each night was sufficient.—*Medical and Surgical Reporter*, Aug. 19, 1884.

Death from Chlorate of Potassium.—A man, forty-nine years of age, by mistake took a teaspoonful of chlorate of potassium in water every two hours until he had taken, in thirty-six hours, nearly two ounces. Dr. Bohn (who reported the case in the *Deutsche Med. Woch*) found him in a condition of collapse, suffering greatly from pain in the stomach, with complete suppression of urine. Subsequently, sensations of numbness of the hands and feet caused him much distress and anxiety. In a period of twenty-four hours only about half an ounce of dark colored urine could be obtained, containing blood-corpuscles and brownish tube-casts, and the presence of methemoglobin was shown with the spectroscope. The collapse increased, and death occurred in two days, preceded by jaundice.

The spleen, liver, and kidneys were brown in color; the uriniferous tubules were filled with brownish masses. The red-blood corpuscles were changed in shape and appearance. A similar appearance after diphtheria may be due to the remedy and not the disease. Dr. Bohn condemns the delivery of chlorate of potassium into unprofessional hands, or its common sale as a harmless remedy.—*Medical Times.*

Secale Cornutum in Typhoid Fever.—Amédée Chassagne (Gaz. Méd. de Paris) reports 82 cases of typhoid fever that he treated in a military hospital with secale. Of his cases, he designates 15 as very severe, 22 as severe, 20 as medium, and 25 as mild attacks of typhoid fever marked by all characteristic symptoms. His mortality was about 3.7 per cent., i. e., he lost only three cases. At or about the same time, a corresponding number of cases treated at another military hospital in a similar manner with the exception of the ergot, showed a mortality of 15 per cent. C. gave the ergot in fresh powder, in doses of 2·3g, 30-45 grains, given but once a day during the acme of the fever for a week or ten days. The action of the drug was manifest cyanosis, sweat and cold extremities; but these symptoms quickly disappeared. The only contra-indication to the use of ergot was gastric irritability. When the stomach rejected the administered medicament the addition of bicarbonate of soda proved of value in checking the vomiting. Intestinal hemorrhage, that occurred in the graver cases, was nicely controlled by the drug. *Weekly Medical Review*, August 30, 1884.

Thymol in the Treatment of Cholera.—Professor Bozzolo has written a letter to the public press in Italy, advocating thymol on theoretical grounds as a remedy for cholera. If it be true, he says, that cholera is due to the presence of micro-organisms in the intestinal canal; that these organisms are developed in this part because they find there an alkaline fluid favorable to their growth; and that acids kill them, or at least hinder their further development, then the problem is to find a slightly soluble acid, and strongly antiseptic substance which is, in large quantities, innocuous to the human organism, and which will pass into the intestines without suffering appreciable change in the stomach. These valuable properties, the learned professor maintains, are possessed by thymol. This substance may be given, he says, without danger, in the dose of three drachms a day, divided in capsules containing seven and a half grains each. Judging from the recent telegraphic reports of the ravages of the cholera in Italy, we are forced to conclude either that this remedy has not been tried to any great extent, or else that it has been proven ineffectual.—*The Medical Record*, September 13, 1884.